

**APPENDIX A**  
**REQUEST LETTER AND**  
**FEDERAL REGISTER NOTICES**

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# Congress of the United States

## U.S. House of Representatives

COMMITTEE ON WAYS AND MEANS

1102 LONGWORTH HOUSE OFFICE BUILDING  
(202) 225-3625

Washington, DC 20515-6348

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JANICE MAYS,  
MINORITY CHIEF COUNSEL

March 18, 2003

*Re: DN: 2298*

The Honorable Deanna Tanner Okun  
Chairman  
U.S. International Trade Commission  
500 E Street, SW  
Washington, D.C. 20436

Dear Chairman Okun:

Since the President's March 20, 2002 imposition of tariffs on certain steel products pursuant to Section 203 of the Trade Act of 1974 (Investigation No. TA-201-73, Certain Steel Products), it has come to the attention of the Committee on Ways and Means that U.S. steel consuming industries are being impacted by the measures. Many manufacturers in steel consuming industries are concerned about competitive conditions affecting their industries.

Accordingly, on behalf of the Committee on Ways and Means of the United States House of Representatives, and under authority of section 332(g) of the Tariff Act of 1930, 19 U.S.C. §1332(g), I am requesting that the Commission institute a fact-finding investigation of the current competitive conditions facing the steel consuming industries in the United States, with respect to the tariffs imposed by the President on March 5, 2002, and to foreign competitors not subject to such measures. The Commission's review of these industries should provide information for the three-year period from April 2000 through March 2003, and the scope of the review should include all of the major domestic consuming industries.

The analysis should be conducted along sectoral lines in order to properly assess the impact on differing segments of the U.S. manufacturing sector, and also examine the data as related to steel products on which the President imposed steel safeguard measures.<sup>1</sup> To the extent possible, the investigation should address the effects of the steel safeguard remedies on steel consuming industries and on industries which rely on steel imports such as the ports, including the following:

<sup>1</sup> Proclamation 7529 of March 5, 2002, 67 Fed. Reg. 10553 (Mar. 7, 2002). The steel safeguard measures cover the following products: (a) certain carbon flat-rolled steel, including carbon and alloy steel slabs; plate (including cut-to-length plate and clad plate); hot-rolled steel (including plate in coils); cold-rolled steel (other than grain-oriented electrical steel); and corrosion-resistant and other coated steel; (b) carbon and alloy hot-rolled bar and light shapes; (c) carbon and alloy cold-finished bar; (d) carbon and alloy rebar; (e) carbon and alloy welded tubular products (other than oil country tubular goods); (f) carbon and alloy flanges, fittings, and tool joints; (g) stainless steel bar and light shapes; (h) stainless steel wire rod; (i) carbon and alloy tin mill products; and (j) stainless steel wire.

*\* Original to fax.*

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1. changes in employment, wages, profitability, sales, productivity, and capital investment of steel consuming industries;
2. an examination of the reported effects of the safeguard remedies on factors such as steel prices paid by consuming industries, steel shortages/availability, the ability of steel consumers to obtain required products or quality specifications, lead times and delivery times, contract abrogation, sourcing of finished parts from overseas by customers of steel consumers, and the relocation or shift of U.S. downstream production to foreign plants or facilities;
3. the impact of international competitive factors, such as relative differences in steel costs to foreign steel consuming industries, on steel consumers' exports and imports of steel-containing products;
4. an examination of any shifts in steel consuming patterns in the United States, i.e., how much steel was purchased from domestic steel producers by U.S. steel consuming industries before the safeguard action, and how has this sourcing changed following the implementation of the tariffs; and
5. a discussion of the likely impact on employment, profitability, capital investment, and international competitiveness of steel consuming industries of (1) continuation of the steel tariffs for the period September 2003 – March 2005 and (2) termination of the tariffs effective September 20, 2003.

The Commission should provide an analysis of the potential economy-wide effects of these safeguard remedies (e.g., on costs borne by steel consumers, tariff revenues entering the U.S. Treasury, income to steel producers, and the net effect on the U.S. economy) using appropriate simulation models. Please describe the models used, along with their assumptions and limitations, and indicate to the extent feasible their effects on the results presented. The Commission should provide its completed report no later than September 20, 2003. Our goal is to have the Commission provide a comprehensive assessment of the impact of the steel safeguard measures on the U.S. economy; therefore, I respectfully request that the Commission provide its report on this investigation and its section 204 steel monitoring report in a single document. I also request that the Commission's report be made public, consistent with the procedures set forth in section 332(g) of the Tariff Act of 1930 concerning the release of confidential business information. Thank you for your attention to this important matter.

Sincerely,



Bill Thomas  
Chairman

Dated: February 6, 2003.

**Fran P. Mainella,**

*Director, National Park Service.*

[FR Doc. 03-8499 Filed 4-9-03; 8:45 am]

BILLING CODE 4310-70-P

## INTERNATIONAL TRADE COMMISSION

[Investigation 332-452]

### Steel-Consuming Industries: Competitive Conditions With Respect to Steel Safeguard Measures

**AGENCY:** International Trade  
Commission.

**ACTION:** Institution of investigation and  
scheduling of public hearing.

**EFFECTIVE DATE:** April 4, 2003.

**SUMMARY:** Following receipt of a request on March 18, 2003, from the Committee on Ways and Means (Committee), U.S. House of Representatives, the Commission instituted investigation No. 332-452, Steel-Consuming Industries: Competitive Conditions with Respect to Steel Safeguard Measures, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)).

On March 5, 2003, the Commission instituted an investigation under section 204(a) of the Trade Act of 1974 (Inv. No. TA-204-9) in order to prepare a report on the results of its monitoring of developments relating to the domestic steel industry since the President imposed tariffs and tariff-rate quotas on imports of certain steel products (68 FR 12380, March 14, 2003). In its letter, the Committee on Ways and Means requests that the Commission provide its report in this section 332 investigation and its monitoring report in the section 204(a) investigation in a single document. In a March 27, 2003 letter to the Commission, the Office of the United States Trade Representative (USTR) referenced the format requested by the Committee and informed the Commission that USTR has no objection to receiving the section 204(a)(2) report and the section 332(g) report in a single document. Accordingly, the Commission will transmit to the President and the Congress these two separate reports in the requested format.

**FOR FURTHER INFORMATION CONTACT:** Information specific to this investigation may be obtained from James Fetzer, Project Leader (202-708-5403; [jfetzer@usitc.gov](mailto:jfetzer@usitc.gov)), Office of Economics; Karl Tsuji, Deputy Project Leader (202-205-3434; [tsuji@usitc.gov](mailto:tsuji@usitc.gov)), Office of Industries; or Catherine DeFilippo, Chief, Applied Economics Division (202-205-3253; [cdefilippo@usitc.gov](mailto:cdefilippo@usitc.gov)),

Office of Economics, U.S. International Trade Commission, Washington, DC, 20436. For information on the legal aspects of this investigation, contact William Gearhart of the Office of the General Counsel (202-205-3091; [wgearhart@usitc.gov](mailto:wgearhart@usitc.gov)). Hearing impaired individuals are advised that information on this matter can be obtained by contacting the TDD terminal on (202) 205-1810.

### Background

As requested by the Committee, the Commission will investigate the current competitive conditions facing the steel-consuming industries in the United States, with respect to tariffs and tariff-rate quotas imposed by the President on March 5, 2002, and with respect to foreign competitors not subject to such measures. As requested, the Commission will conduct its analysis along sectoral lines in order to assess the impact on differing segments of the U.S. manufacturing sector; and also examine the data as related to steel products on which the President imposed steel safeguard measures. To the extent possible, the investigation will address the effects of the safeguard measures on steel consuming industries and on industries that rely on steel imports such as the ports, including the following:

- (1) Changes in employment, wages, profitability, sales, productivity, and capital investment of steel-consuming industries;
- (2) An examination of the reported effects of the safeguard remedies on factors such as steel prices paid by consuming industries, steel shortages/availability, the ability of steel consumers to obtain required products or quality specifications, lead times and delivery times, contract abrogation, sourcing of finished parts from overseas by customers of steel consumers, and the relocation or shift of U.S. downstream production to foreign plants or facilities;
- (3) The impact of international competitive factors, such as relative differences in steel costs to foreign steel-consuming industries, on steel consumers' exports and imports of steel-containing products;
- (4) An examination of any shifts in steel-consuming patterns in the United States, *i.e.*, how much steel was purchased from domestic steel producers by U.S. steel-consuming industries before the safeguard action, and how has this sourcing changed following the implementation of the safeguard measures; and
- (5) A discussion of the likely impact on employment, profitability, capital

investment, and international competitiveness of steel-consuming industries of (i) continuation of the safeguard measures for the period September 2003-March 2005 and (ii) termination of the safeguard measures effective September 20, 2003.

In addition, as requested, the Commission will provide an analysis of the potential economy-wide effects of these safeguard measures (*e.g.*, on costs borne by steel consumers, tariff revenues entering the U.S. Treasury, income to steel producers, and the net effect on the U.S. economy) using appropriate simulation models.

The Committee asked that the Commission furnish its report by September 20, 2003, along with the Commission's section 204 steel monitoring report in a single document. The Committee also requested that the Commission make its report available to the public, consistent with procedures set forth in section 332(g) of the Tariff Act of 1930 concerning the release of confidential business information.

### Public Hearing

A public hearing in connection with this investigation is scheduled to begin at 9:30 a.m. on June 19, 2003, at the U.S. International Trade Commission Building, 500 E Street SW, Washington, DC. All persons have the right to appear by counsel or in person, to present information, and to be heard. Persons wishing to appear at the public hearing should file a letter with the Secretary, United States International Trade Commission, 500 E St., SW, Washington, DC 20436, not later than the close of business (5:15 p.m.) on June 2, 2003. In addition, persons appearing should file prehearing briefs (original and 14 copies) with the Secretary by the close of business on June 4, 2003. Posthearing briefs should be filed with the Secretary by the close of business on June 27, 2003. In the event that no requests to appear at the hearing are received by the close of business on June 2, 2003, the hearing will be canceled. Any person interested in attending the hearing as an observer or non-participant may call the Secretary to the Commission (202-205-1816) after June 4, 2003 to determine whether the hearing will be held.

### Written Submissions

In lieu of or in addition to appearing at the public hearing, interested persons are invited to submit written statements concerning the investigation. Written statements should be received by the close of business on June 27, 2003. Commercial or financial information which a submitter desires the

Commission to treat as confidential must be submitted on separate sheets of paper, each clearly marked "Confidential Business Information" at the top. All submissions requesting confidential treatment must conform with the requirements of section 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). All written submissions, except for confidential business information, will be made available for inspection by interested persons. The Commission intends to publish only a public report in this investigation. Accordingly, any confidential business information received by the Commission in this investigation and used in preparing the report will not be published in a manner that would reveal the operations of the firm supplying the information. All submissions should be addressed to the Secretary at the Commission's office in Washington, DC. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the Commission's Rules, as amended, 67 FR 68036 (Nov. 8, 2002). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting our TDD terminal on (202) 205-1810.

By order of the Commission.

Issued: April 4, 2003.

**Marilyn R. Abbott,**

Secretary to the Commission.

[FR Doc. 03-8727 Filed 4-9-03; 8:45 am]

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## DEPARTMENT OF JUSTICE

### Office of Justice Programs

#### Agency Information Collection Activities: Proposed Collection; Comments Requested

**ACTION:** 30-Day Notice of Information Collection Under Review: Extension of a currently approved collection; Certification of compliance with eligibility requirements of grants to reduce crimes against women.

The Department of Justice (DOJ), Office of Justice Programs (OJP) has submitted the following information collection request to the Office of Management and Budget (OMB) for review and approval in accordance with the Paperwork Reduction Act of 1995. The proposed information collection is published to obtain comments from the

public and affected agencies. This proposed information collection was previously published in the **Federal Register** Volume 68, Number 20, page 4797 on January 30, 2003, allowing for a 60 day comment period.

The purpose of this notice is to allow for an additional 30 days for public comment until May 12, 2003. This process is conducted in accordance with 5 CFR 1320.10.

Written comments and/or suggestions regarding the items contained in this notice, especially the estimated public burden and associated response time, should be directed to The Office of Management and Budget, Office of Information and Regulatory Affairs, Attention Department of Justice Desk Officer, Washington, DC 20503. Additionally, comments may be submitted to OMB via facsimile to (202) 395-7285.

Request written comments and suggestions from the public and affected agencies concerning the proposed collection of information are encouraged. Your comments should address one or more of the following four points:

*Overview of this information collection:*

(1) *Type of information collection:* Extension of a currently approved collection.

(2) *The title of the form/collection:* Certification of Compliance with Eligibility Requirements of Grants to Reduce Crimes against Women.

(3) *The agency form number, if any, and the applicable component of the department sponsoring the collection:* Form Number: none. Office on Violence Against Women, Office of Justice Programs, Department of Justice.

(4) *Affected public who will be asked or required to respond, as well as a brief abstract:* Primary: Institutions of Higher Education. Other: None. The grants to Reduce Violent Crimes Against Women on Campus Program was authorized through section 826 of the Higher Education Amendments of 1998 to make funds available to institutions of higher education to combat domestic violence, dating violence, sexual assault and stalking crimes.

(5) *An estimate of the total number of respondents and the amount of time estimated for an average respondent to respond/reply:* It is estimated that 125 respondents will complete the application in approximately 30 minutes.

(6) *An estimate of the total public burden (in hours) associated with the collection:* The estimated total public burden associated with this application is 62 hours.

If additional information is required contact: Mrs. Brenda E. Dyer, Deputy Clearance Officer, United States Department of Justice, Information Management and Security Staff, Justice Management Division, Suite 1600, Patrick Henry Building, 601 D Street NW., Washington, DC 20530.

Dated: April 4, 2003.

**Brenda E. Dyer,**

Deputy Clearance Officer, Department of Justice.

[FR Doc. 03-8687 Filed 4-9-03; 8:45 am]

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## DEPARTMENT OF LABOR

### Employment and Training Administration

[TA-W-40,947]

#### **BASF Corporation, Vitamin Division, a Subsidiary of BASFIN Corporation, Including Leased Workers of Adecco, Wyandotte, MI; Amended Certification Regarding Eligibility To Apply for Worker Adjustment Assistance**

In accordance with Section 223 of the Trade Act of 1974 (19 U.S.C. 2273) the U.S. Department of Labor issued a Certification of Eligibility to Apply for Worker Adjustment Assistance on May 9, 2002, applicable to workers of BASF Corporation, Vitamin Division, a subsidiary of BASFIN Corporation, Wyandotte, Michigan. The notice was published in the **Federal Register** on May 17, 2002 (67 FR 35141).

At the request of the State agency, the Department reviewed the certification for workers of the subject firm. Information provided by the State shows that leased workers of Adecco were employed at BASF Corporation, Vitamin Division, a subsidiary of BASFIN Corporation to produce vitamin E, vitamin A and food blends/mixes at the Wyandotte, Michigan location of the subject firm.

Based on these findings, the Department is amending the certification to include leased workers of Adecco who were working at BASF Corporation, Vitamin Division, a subsidiary of BASFIN Corporation, Wyandotte, Michigan.

The intent of the Department's certification is to include all workers of BASF Corporation, Vitamin Division, a subsidiary of BASFIN Corporation who were adversely affected by increased imports.

The amended notice applicable to TA-W-40,947 is hereby issued as follows:

**Table A-1**  
**Federal Register notices regarding the section 203 safeguard measures**

<b>Date</b>	<b>Federal Register citation</b>	<b>Title</b>	<b>Description</b>
March 7, 2002	67 FR 10553	Presidential Proclamation 7529– To Facilitate Positive Adjustment to Competition From Imports of Certain Steel Products	Announcement of the section 203 remedy; identification of products and countries covered by the relief; and list of initial products excluded from relief
March 7, 2002	67 FR 10593	Presidential Memorandum of March 5, 2002–Action Under Section 203 of the Trade Act of 1974 Concerning Certain Steel Products	Memorandum for the Secretary of the Treasury, the Secretary of Commerce, and the United States Trade Representative
March 19, 2002	67 FR 12635	Technical Corrections to the Harmonized Tariff Schedule of the United States	Corrects several inadvertent errors and omissions in the Annex to Presidential Proclamation 7529 of March 5, 2002 (67 FR 10553) so that the intended tariff treatment is provided
June 4, 2002	67 FR 38541	Technical Corrections to the Harmonized Tariff Schedule of the United States	Corrects several inadvertent errors and omissions in the Annex to Presidential Proclamation 7529 of March 5, 2002 (67 FR 10553) so that the intended tariff treatment is provided
July 12, 2002	67 FR 46221	Exclusion of Particular Products from Actions under Section 203 of the Trade Act of 1974 With Regard to Certain Steel Products; Conforming Changes and Technical Corrections to the Harmonized Tariff Schedule of the United States	USTR’s determination that particular products should be excluded from actions under section 203 with regard to certain steel products
August 30, 2002	67 FR 56182	Exclusion of Particular Products From Actions Under Section 203 of the Trade Act of 1974 With Regard to Certain Steel Products; Conforming Changes and Technical Corrections to the Harmonized Tariff Schedule of the United States	USTR’s determination that particular products should be excluded from actions under section 203 with regard to certain steel products
November 14, 2002	67 FR 69065	Technical Corrections to the Harmonized Tariff Schedule of the United States	Corrects several inadvertent errors and omissions in the Annex to Presidential Proclamation 7529 of March 5, 2002 (67 FR 10553) so that the intended tariff treatment is provided
February 11, 2003	68 FR 6982	Technical Corrections to the Harmonized Tariff Schedule of the United States	Corrects several inadvertent errors and omissions in the Annex to Presidential Proclamation 7529 of March 5, 2002 (67 FR 10553) so that the intended tariff treatment is provided
March 31, 2003	68 FR 15494	Exclusion of Particular Products From Actions Under Section 203 of the Trade Act of 1974 With Regard to Certain Steel Products; Conforming Changes and Technical Corrections to the Harmonized Tariff Schedule of the United States	USTR’s determination that particular products should be excluded from actions under section 203 with regard to certain steel products
June 9, 2003	68 FR 34462	Technical Corrections to the Harmonized Tariff Schedule of the United States	Corrects several inadvertent errors and omissions in the Annex to Presidential Proclamation 7529 of March 5, 2002 (67 FR 10553) so that the intended tariff treatment is provided
Source: Various <i>Federal Register</i> notices.			



## **APPENDIX B**

# **DESCRIPTION OF STEEL PRODUCTS SUBJECT TO THE SECTION 203 SAFEGUARD MEASURES**

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## A. CARBON AND ALLOY FLAT STEEL

- 1. Slabs.**—Semifinished steel produced by continuous casting or by hot-rolling or forging. Slabs of carbon steel have a rectangular cross-section with a width at least two times the thickness. Slabs of other alloy steel have a width at least four times the thickness.
- 2. Plate (including cut-to-length plate and clad plate).**—Cut-to-length plate is flat-rolled steel of rectangular cross-section, having a thickness of 4.75 mm or more and a width which exceeds 150 mm and measures at least twice the thickness. It is flat (i.e., not in coils, and may be of any shape (rectangular, circular, or other). It may have been produced by rolling on a sheared-plate mill or by flattening and cutting-to-length a coiled plate. It may have patterns-in-relief derived directly from rolling (e.g., floor plate). It may be perforated, corrugated, or polished. Plate may also have been subject to heat-treatment and have been descaled or pickled. Clad plate is a flat-rolled product of more than one metal layer, of which the predominating metal is non-alloy steel, and the layers are joined by molecular interpenetration of the surfaces in contact. The metal other than non-alloy steel may be stainless steel, titanium, or any other metal. The product may be in the form of a flat plate or a coiled plate, may be of any thickness, and may be either hot- or cold-rolled.
- 3. Hot-rolled sheet and strip (including plate in coils).**—Includes carbon and alloy flat-rolled steel of rectangular cross-section, produced by hot-rolling. If in coils, it may be of any thickness. If in straight lengths, it is of a thickness of less than 4.75 mm and a width measuring at least 10 times the thickness. It may have patterns-in-relief derived directly from rolling (e.g., floor plate). It may be perforated, corrugated, or polished; may be either unpickled or pickled; may have been subject to various processing after hot reduction, including pickling or descaling, rewinding, flattening, temper rolling, heat treatment; and may have been cut into shapes other than rectangular.
- 4. Cold-rolled sheet and strip other than GOES (grain-oriented electrical steel).**—Includes carbon and alloy flat-rolled steel of rectangular cross-section, produced by cold rolling. If in coils, may be of any thickness. If in straight lengths, is of a thickness of less than 4.75 mm and a width measuring at least 10 times the thickness. It may have patterns-in-relief derived directly from rolling. It may be perforated, corrugated, or polished. May have been subject to various processing after cold reduction, including flattening, temper rolling, heat treatment, and may have been cut into shapes other than rectangular.
- 5. Corrosion-resistant and other coated sheet and strip.**—Flat-rolled carbon or alloy steel with a metallic or nonmetallic coating, other than tin or tin-free steel, and other than clad. Includes, galvanized, aluminized, zinc-aluminum alloy coated, galvanized (heat-treated after coating), terns-plate and terns-coated sheets, painted, and coated with plastic.
- 6. Tin-mill products.**—Flat-rolled products of carbon or alloy steel, plated or coated with tin or with chromium oxides or with chromium and chromium oxides. May be either in coils or in straight lengths.

## B. CARBON AND ALLOY LONG PRODUCTS

7. **Hot-rolled bar and light shapes.**—Bars are products which have a solid cross-section in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles, or other convex polygons (including “flattened circles” and “modified rectangles,” of which two opposite sides are convex arcs, the other two sides being straight, of equal length, and parallel). Includes bars of a diameter of 19 mm or more in irregularly wound coils. Excludes carbon and alloy steel (including free-machining alloy steel) wire rod having a diameter of 5 mm or more but less than 19 mm. (These products are covered by section 203 relief on wire rod.) Includes free-machining carbon steel and high-nickel alloy steel bars and rods of any diameter. Includes angles, shapes, and sections (such as U, I, or H sections) not further worked than hot-rolled, hot-drawn, or extruded, with no linear dimension of 80 mm or greater when measured through a solid portion of the cross section. Includes hollow drill bars and rods of which the greatest external dimension of the cross-section exceeds 15 mm but does not exceed 52 mm, and of which the greatest internal dimension does not exceed one half of the greatest external dimension. Hollow bars and rods of iron or steel not conforming to this definition are included in pipe and tubing.
8. **Cold-finished bar.**—Bars, as defined by shape above, not in coils, which have been subjected to a cold-finishing operation such as cold rolling, cold drawing, grinding, or polishing.
9. **Rebar.**—Hot-rolled products which have a solid cross-section as described for bars above, and which contains indentations, ribs, grooves, or other deformations produced during the rolling process or twisted after rolling, for the purpose of improving the bond with concrete.

## C. CARBON AND ALLOY TUBULAR PRODUCTS AND FITTINGS

10. **Welded tubular products other than OCTG.**—Tubular products that are produced by bending flat-rolled steel products to form the hollow product with overlapping or abutting seams. Most such products are fastened along the seam by welding, although clipping, riveting, and forging are also used to fasten a seam. The seam produced by the fastening method may run either longitudinally or spirally along the length of the product. Excludes OCTG and carbon quality steel welded line pipe of an outside diameter that does not exceed 406.7 mm (the latter product is covered by section 203 relief on line pipe).
11. **Flanges and fittings.**—Includes fittings of carbon or alloy steel, mainly used for connecting the bores of two pipes or tubes together, or for connecting a pipe or tube to some other apparatus, or for closing the tube aperture. Does not include valves, or articles used for installing pipes and tubes but which do not form an integral part of the bore (e.g., hangers, stays, and similar supports, clamping or tightening bands, or collars (hose clips) used for clamping flexible tubing or hose to rigid piping, taps, connecting pieces, etc.)

## D. STAINLESS STEEL PRODUCTS

12. **Bar and light shapes.**—Includes bars and rods not in irregularly wound coils; also includes hot-rolled bars and rods in irregularly wound coils of circular cross section with a diameter of 19 mm or more. (Bars are products which have a solid cross-section in the shape of circles, segments of circles, ovals, rectangles (including squares), triangles or other convex polygons (including “flattened circles” and “modified rectangles,” of which two opposite sides are convex arcs, the other two sides being straight, of equal length, and parallel)). Also includes angles, shapes, and sections (such as U, I, or H sections) with no linear dimension of 80 mm or greater when measured through a solid portion of the cross section, not further worked than hot-rolled, hot-drawn, or extruded.
13. **Rod.**—Stainless steel of solid cross-section in irregularly wound coils. If of circular cross-section, having a diameter of less than 19 mm. If of alloy containing 24 percent or more of nickel, by weight, or of a shape other than circular, may be of any size.
14. **Wire.**—Cold-formed products in coils, of any uniform solid cross-section along their whole length, which do not conform to the definition of flat-rolled products.



**APPENDIX C**  
**HEARING CALENDAR**

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## CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

**Subject:** Steel Consuming Industries: Competitive Conditions  
with Respect to Steel Safeguard Measures

**Inv. No.:** 332-452

**Dates and Times:** June 19-20 2003, 9:30 a.m.

Sessions were held in connection with this investigation in the Main Hearing Room (room 101), 500 E Street, S.W., Washington, DC.

### CONGRESSIONAL APPEARANCES:

**The Honorable Nancy L. Johnson**, U.S. Congresswoman, 5<sup>th</sup> District, State of Connecticut

**The Honorable Peter J. Visclosky**, U.S. Congressman, 1<sup>st</sup> District, State of Indiana

**The Honorable Sherrod Brown**, U.S. Congressman, 13<sup>th</sup> District, State of Ohio

**The Honorable Thaddeus G. McCotter**, U.S. Congressman, 11<sup>th</sup> District, State of Michigan

**The Honorable Joe Knollenberg**, U.S. Congressman, 9<sup>th</sup> District, State of Michigan

**The Honorable Mike Rogers**, U.S. Congressman, 8<sup>th</sup> District, State of Michigan

**The Honorable Nick Smith**, U.S. Congressman, 7<sup>th</sup> District, State of Michigan

**The Honorable Vernon J. Ehlers**, U.S. Congressman, 3<sup>rd</sup> District, State of Michigan

**The Honorable Pete Hoekstra**, U.S. Congressman, 2<sup>nd</sup> District, State of Michigan

**The Honorable Bart Stupak**, U.S. Congressman, 1<sup>st</sup> District, State of Michigan

**The Honorable Ted Strickland**, U.S. Congressman, 6<sup>th</sup> District, State of Ohio

**The Honorable Marion Berry**, U.S. Congressman, 1<sup>st</sup> District, State of Arkansas

**The Honorable Paul D. Ryan**, U.S. Congressman, 1<sup>st</sup> District, State of Wisconsin

**The Honorable Donald A. Manzullo**, U.S. Congressman, 16<sup>th</sup> District, State of Illinois

**The Honorable Mark Steven Kirk**, U.S. Congressman, 10<sup>th</sup> District, State of Illinois

**The Honorable Phil English**, U.S. Congressman, 3<sup>rd</sup> District, State of Pennsylvania

**The Honorable Mark R. Kennedy**, U.S. Congressman, 6<sup>th</sup> District, State of Minnesota

**STATE APPEARANCES:**

**The Honorable Craig Foltin**, Mayor, The City of Lorain, Ohio

**The Honorable Jane Campbell**, Mayor, The City of Cleveland, State of Ohio

**The Honorable Larry P. Langford**, President, Jefferson County Commission of Birmingham,  
Alabama



**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL ONE - CONSUMER OVERVIEW AND AUTOMOTIVE  
EQUIPMENT AND PARTS -CONT'D**

DURA Automotive Systems, Incorporated

**Larry A. Denton**, President and Chief Executive Officer, DURA Automotive Systems,  
Incorporated

E & E Manufacturing Company, Incorporated

**Wes Smith**, President, E & E Manufacturing Company,  
Incorporated

**John Guzik**, Vice President, E & E Manufacturing Company,  
Incorporated

Federal-Mogul Corporation

**Ramzi Y. Hermiz**, Vice President, Global Supply Chain Management,  
Federal-Mogul Corporation

Metaldyne

**Timothy D. Leuliette**, Chairman, President and Chief Executive Officer, Metaldyne

Transpro, Incorporated

**Layne R. Gobrogge**, Vice President Marketing, Transpro, Incorporated

Porter Wright Morris & Arthur  
Washington, D.C.  
on behalf of

San Luis Rassini International, Incorporated

**Robert Anderson**, President, San Luis Rassini International, Incorporated

**Leslie Alan Glick** )-OF COUNSEL

Textron Fastening Systems, Incorporated

**Richard L. Clayton**, President, Textron Fastening Systems, Incorporated

**David R. Breuhan**

**PANEL TWO - MACHINERY AND EQUIPMENT**

(Total: 35 minutes)

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

Emergency Committee for American Trade

**Dan M. Murphy**, Executive Vice President, Global Purchasing Division,  
Caterpillar Inc.

**Calman J. Cohen**, President, Emergency Committee for American Trade

Sidley Austin Brown & Wood  
Washington, D.C.  
on behalf of

Caterpillar Inc.

**Dan C. Hanback**, Director, Global Purchasing Division, Caterpillar Inc.

**Scott A. Phillips**, Category Manager (Steel), Global Purchasing Division,  
Caterpillar Inc.

**William C. Lane**, Washington Director, Caterpillar Inc.

**Robert T.C. Vermylen**, Attorney, Legal Services Division, Caterpillar Inc.

**Niall P. Meagher** )--OF COUNSEL

National Electrical Manufacturers Association

**John M. Meekam**, Manager, International Trade, National Electrical Manufacturers  
Association

Acuity Brands Lighting Group

**Tom Naramore**, Senior Vice President, Global Sourcing, Acuity Brands  
Lighting Group

Advance Transformer Company

**Brian R. Dundon**, President, Advance Transformer Company

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL TWO - MACHINERY AND EQUIPMENT - CONT'D**

The Lincoln Electric Company

**John Stropki**, Executive Vice President, The Lincoln Electric Company

Delta Brands, Incorporated

**Sam Savariego**, President and Founder, Delta Brands, Incorporated

**Lou Colatriano**, Consultant, Delta Brands, Incorporated

**Velinda Savariego**, Executive Vice President, Delta Brands, Incorporated

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL THREE - PORTS, TRANSPORTATION SERVICES,  
AND IMPORTERS**

(Total: 30 minutes)

Free Trade in Steel Coalition

20 minutes

**Dennis Rochford**, Coordinator, Free Trade in Steel Coalition

**Tim Tess**, Vice President, Administration, Pasha Stevedoring & Terminals

**Walter A. Niemand**, Board Member, Texas Free Trade Coalition and  
President and Chief Executive Officer, West Gulf Maritime  
Association

**Michael Dickens**, District Representative, South Atlantic and Gulf  
Coast District International Longshoremen's Association

**Wade Battles**, Managing Director, Port of Houston Authority

Imports International, Incorporated

5 minutes

**Kenneth Cather**, Vice President, Quality Assurance, Imports International,  
Incorporated

PGT Trucking, Incorporated

5 minutes

**Patrick A. Gallagher**, President, PGT Trucking, Incorporated

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL FOUR - METAL FORMING AND RELATED INDUSTRIES**

(Total: 85 minutes)

Dykema Gossett  
Washington, D.C.  
on behalf of

Coalition for the Advancement of Michigan Tooling

**Laurie S. Moncrief**, President, Schmalz Tool & Die

**Sanford B. Ring**            )  
  )–OF COUNSEL  
**Tamara Jack**                )

Precision Metalforming Association

**William E. Gaskin**, CAE, President, Precision Metalforming Association

The Steel Fastener Working Group

**Timothy N. Taylor**, Chairman, The Steel Fastener Working Group and President,  
MacLean Vehicle Systems

Ataco Steel Products Corporation

**WH Jens**, President and Chief Executive Officer, Ataco Steel Products Corporation

Bachman Machine Company

**John Wm. Ake**, Director Materials Management, Bachman Machine  
Company

Dixie Industrial Finishing Company

**James M. Jones**, Vice President, Dixie Industrial Finishing Company

Dowding Industries, Incorporated

**Chris Dowding**, President, Dowding Industries, Incorporated

GR Spring & Stamping, Incorporated

**Merle Emery**, Vice President, GR Spring & Stamping, Incorporated

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL FOUR - METAL FORMING AND RELATED INDUSTRIES - CONT'D**

Illinois Tools Works

**Roland Martel**, President, Illinois Tools Works Automotive Components

Olson International, Limited

**Edward C. Farrer** C.P.M., Manager, Purchases, Olson International, Limited

Trans-Matic

**Patrick A. Thompson**, Chief Executive Officer, Trans-Matic

Stripmatic Products, Incorporated

**William J. Adler, Jr.**, President, Stripmatic Products, Incorporated

Su-dan Corporation

**Teresa Amman**, Director of Supply Chain Management, Su-dan Corporation

Stephoe & Johnson LLP

Washington, D.C.

on behalf of

Thomas Steel Strip

**John Barden**, Director of Battery Sales, Thomas Steel Strip

**Stephen Wilkes**, Director, U.S. Governmental and Regulatory Affairs,  
Thomas Steel Strip

**Richard O. Cunningham**     )  
  )-OF COUNSEL  
**Kathleen M. Graber**         )

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**DAY TWO HEARING – Friday, June 20, 2003**

**PANEL FIVE - STEEL PRODUCERS, PROCESSORS,  
AND DISTRIBUTORS**

(Total: 70 minutes)

American Iron and Steel Institute

**Andrew G. Sharkey, III**, President and Chief Executive Officer,  
American Iron and Steel Institute

Steel Manufacturers Association

**Thomas A. Danjczek**, President, Steel Manufacturers Association

Stewart and Stewart  
Washington, D.C.  
on behalf of

United Steelworkers of America, AFL-CIO.CLC

**Stephen R. Francisco**, Legislative Representative, United Steelworkers  
of America

**Terence P. Stewart**                    )  
  )–OF COUNSEL  
**Patrick J. McDonough**                )

Schagrin Associates  
Washington, D.C.  
on behalf of

Committee on Pipe and Tube Imports (CPTI) and CPTI 201 Coalition

**Glenn Baker**, Vice President, Marketing and Sales, Searing Industries, Incorporated

**Robert Bussiere**, General Manager, Fire Protection Products,  
Allied Tube & Conduit

**Mark Magno**, Vice President - Marketing, Wheatland Tube Company

**Roger B. Schagrin**                    )–OF COUNSEL

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL FIVE - STEEL PRODUCERS, PROCESSORS,  
AND DISTRIBUTORS - CONT'D**

International Steel Group, Incorporated

**Mitchell Hecht**, Vice President, External Affairs and Public Policy,  
International Steel Group, Incorporated

Kenilworth Steel Company

**Bob Heltzel, Jr.**, President, Kenilworth Steel Company

Dewey Ballantine, LLP  
Washington, D.C.

and

Skadden, Arps, Slate, Meagher & Flom LLP  
Washington, D.C.  
on behalf of

National Steel Corporation and United States Steel Corporation

**Stephen Szymanski**, Manager, Sales, United States Steel Corporation

**William A. Noellert**, Chief Economist, Dewey Ballantine LLP

**Susan B. Hester**, Economist, Dewey Ballantine LLP

**Seth T. Kaplan**, Vice President, Charles River Associates

<b>Alan Wm. Wolff</b>	)	
<b>Kevin M. Dempsey</b>	)	—OF COUNSEL
<b>Jennifer Danner Riccardi</b>	)	
<b>Robert E. Lighthizer</b>	)	
<b>James C. Hecht</b>	)	—OF COUNSEL
<b>Stephen P. Vaughn</b>	)	
<b>Stephen J. Narkin</b>	)	

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL FIVE - STEEL PRODUCERS, PROCESSORS,  
AND DISTRIBUTORS - CONT'D**

Wiley Rein & Fielding LLP  
Washington, D.C.  
on behalf of

Nucor Corporation  
Long Products Producers Coalition and the Coalition of Steel Consumers

**Terry S. Lisenby**, Chief Financial Officer, Nucor Corporation

**Seth Kaplan**, Vice President, Charles River Associates

**Peter Morici**, Professor of International Business, University of Maryland,  
College Park

**Charles Owen Verrill, Jr.**     )  
**Alan H. Price**                 )–OF COUNSEL  
**Timothy C. Brightbill**        )

Nucor Cold Finish

**Terry Cieslinski**, Cold Finish Manager, Nucor Cold Finish

Nucor Fastener

**Scott Wulff**, General Manager, Nucor Fastener

Stupp Corporation

**Donnell Efferson**, Senior Vice President Commercial, Stupp Corporation

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL SIX - CONSTRUCTION**

(Total: 15 minutes)

Arrowhead Rebar Company

**Jayson Turner**, President, Arrowhead Rebar Company

CMC Steel Group

**Tom Yarbrough**, General Manager, SMI Rebar North Carolina

**Karl Schoenleber**, General Manager, SMI Rebar, South Carolina

Kerner Songer

**Robert Hoover**, Vice President, Kvaerner Songer

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL SEVEN - CONSUMER AND COMMERCIAL GOODS**

(Total: 25 minutes)

Air-Conditioning & Refrigeration Institute

**William G. Sutton**, President, Air-Conditioning & Refrigeration Institute

**Bryan Kelly**, President, National Refrigeration and Air-Conditioning  
Products, Incorporated

**Terry Bowman**, Vice President, Supply Chain Management, York International

Association of Home Appliance Manufacturers

**Joseph M. McGuire**, President, Association of Home Appliance Manufacturers

Hearth, Patio & Barbecue Association

**Jack Goldman**, General Counsel, Director of Government Affairs, Hearth,  
Patio & Barbecue Association

KI, Incorporated

**Gary N. Van Handel**, Director Supply Chain Management, KI, Incorporated

**ORGANIZATION AND WITNESS:**

**TIME  
ALLOCATION:**

**PANEL EIGHT - SUPPLIERS TO STEEL PRODUCERS**

(Total: 30 minutes)

David J. Joseph Company

**Stephen W. Wulff**, Vice President, David J. Joseph Company

Gottlieb, Incorporated

**Robert W. Gottlieb**, President, Gottlieb, Incorporated

International Mill Service, Incorporated

**William R. Miller**, Vice President, International Mill Service, Incorporated

Magneco/Metrel, Incorporated

**Charles W. Connors**, Magneco/Metrel, Incorporated

Massey Energy Company

**John M. Poma**, Vice President-Human Resources, Massey Energy Company

Primary Energy

**Joseph T. Turner**, Managing Director, Primary Energy

Pyro Industrial Services, Incorporated

**John L. Carlson**, Chief Executive Director, Pyro Industrial Services, Incorporated

Refax, Incorporated

**Richard A. Oliver**, President, Refax, Incorporated

Stein, Incorporated

**James Conlon**, Vice President, Stein Incorporated

Tube City, Incorporated

**Thomas E. Lippard**, Executive Vice President, Tube City, Incorporated



**APPENDIX D**  
**MARKET CHARACTERISTICS AND THE**  
**POTENTIAL EFFECT OF THE**  
**SAFEGUARD MEASURES ON STEEL-**  
**CONSUMING INDUSTRIES**

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# **APPENDIX D**

## **MARKET CHARACTERISTICS AND THE POTENTIAL EFFECT OF THE SAFEGUARD MEASURES ON STEEL-CONSUMING INDUSTRIES**

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### **Introduction**

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This appendix describes how the safeguard measures may affect steel consuming industries. The first section explains how the safeguard measures on steel consuming industries are likely to affect different industries differently and even firms within a product sector differently depending on the characteristics of individual industries and markets.<sup>1</sup> The second section considers in more detail the potential effect of the measures on certain major steel consuming sectors. The information presents a theoretical foundation for the effects as reported by companies responding to the Commission’s purchaser questionnaire as presented in Chapter 2.

A safeguard duty by design increases costs of imports covered by the measure. How that cost increase impacts firms and consumers across markets depends on how successfully firms can pass along the cost increase to buyers. This is the so-called “pass-through;” that is, how much of the cost increase can be passed through to the next level in the vertical chain of production, and possibly all the way to the final consumer. A number of factors related to market structure and firm bargaining power determine the ability of firms to pass the cost through. This appendix describes how industry and market characteristics in the steel consuming markets determine the pass through and the variability in effects across the diverse industries included in the steel consuming markets. Smaller producers in industries such as the motor vehicle parts and steel fabrication are likely to be particularly vulnerable to the safeguard measures because they purchase steel subject to the highest tariffs; have some of the highest cost shares of steel among steel consuming industries; have little or no market power; and purchase specialized products predominately from steel service centers.

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<sup>1</sup>While this appendix discusses how industries and/or firms are likely to be affected by the safeguard measures, information presented in chapter 2 discusses the actual effects as reported by companies that responded to the Commission’s purchasers’ questionnaire.

### ***Determinants of the Effect of Safeguard Measures on Product Costs and Prices in Steel Consuming Firms and Industries [3]***

These determinants fall into two categories—(1) determinants of the effects of safeguard measures on the costs of steel consuming firms and industries, and (2) determinants of the ability of steel consuming firms and industries to pass on higher costs to their customers.

(1) The extent to which a tariff increase as the result of safeguard measures is manifested as higher costs in steel consuming firms and industries may be relatively higher when:

- The share of steel in total costs is high.
- The average tariff applied to the varieties of steel purchased is high.
- Producers of the type of steel being purchased are relatively more concentrated, or better organized, than the buyers.
- The steel is being purchased through a market-sensitive institution such as a service center, trading company, or E-commerce.
- The steel consuming industry purchases mainly specialized steel.
- The steel consuming industry produces relatively few products, most or all of which contain steel.

and may be relatively lower when:

- The share of steel in total costs is low.
- The average tariff applied to the varieties of steel purchased is low.
- Firms in the steel consuming industry are relatively more concentrated, or better organized, than the steel-producing firms.
- The firms in the steel consuming industry are able to protect themselves from short-term price fluctuations by buying steel under long-term contracts.
- The steel consuming industry purchases mainly commodity steel (e.g. flat-rolled steel in standard specifications).
- The steel consuming industry produces multiple products, some of which are not steel-containing, and can readily alter its product mix.

(2) The ability of steel consuming firms to pass on steel price increases induced by the safeguard measures to their customers is relatively high when:

- The firms in the steel consuming industry are more concentrated, or better organized, than their customers.
- There are few substitutes for the products produced by the steel consuming industry.

and is relatively low when:

- The customers of the steel consuming industry are more concentrated or better organized than the firms in the steel consuming industry.
- There are one or more close substitutes for the products produced by the steel consuming industry.

## **Determinants of the Impact of Safeguard Measures**

The impact of safeguard measures varies from industry to industry, and even from firm to firm, depending on a number of factors, summarized in the box above. An obvious factor is that the tariff rate imposed by the safeguard measures varies by the type of steel an steel consuming firm may purchase. Other factors include the share of steel in total costs, which is influenced heavily by production technology; the degree of substitutability between steel from various countries, the flexibility of technology, the substitutability across products at different layers in the production chain and among final consumers, the relative degree of market power of buyers and sellers, industry concentration levels, and the type of market institutions through which steel is bought and sold. All these influence how much of

the imposed safeguard duties are absorbed or passed through to purchasers. The complexity of these markets makes firm answers both industry-specific and very difficult to determine.

### *Pass-Through of Tariffs*

How much of the tariff is passed through or transferred from the seller to the buyer depends on a number of factors. In a pure case, the downstream effect of a duty on imported steel, would be easy to calculate if

- (I) all steel was imported and subject to the duty,
- (ii) importers always raised their prices in proportion to the tariff,
- (iii) importers passed the full amount of the duty on to steel consuming firms,
- (iv) steel consuming firms always passed the full amount of the duty on to their customers, and
- (v) the activities of steel consuming firms were otherwise unchanged.

Under these conditions, the price of steel would increase by the tariff rate, while the price of steel-containing products would increase by the share of steel costs in the value of output prior to the duty multiplied by the tariff rate.<sup>2</sup>

However, real markets are complex and in most cases the importer of steel will be unable to pass on the full tariff increase and the steel consuming firm, in turn, will be unable to pass on the full cost increase it experiences from the portion of the tariff passed through to it. Typically, full pass-through of the price takes place only when the customer does not react to price increases by cutting back on purchases.<sup>3</sup> Hence, the ability of a seller to pass on a cost increase depends on the firm's ability to set prices. This ability to set price is, by definition, the firm's market power. Depending on their market power, firms will have to absorb some of the cost increase, and can pass the rest through to customers. Some sellers may willingly absorb more of the cost increase than in order to prevent lost sales or maintain customer good will. But it is certain that the extent to which the cost increase is spread across buyers and sellers will vary across industries and firms. And it is likely that the effect of the duty is felt through several stages of consumption. These indirect effects are captured in the modeling framework described in appendix E.

The impact of the safeguard measures may also be increased or decreased by other occurrences in the market. For example, a few months before the safeguard measures went into effect, LTV Steel, one of the largest domestic producers of flat rolled steel, ceased operations due to bankruptcy. This significant reduction in domestic supply contributed to the market effects resulting from the import-supply constraining nature of the safeguard measures, including both flat-rolled price increases and availability/delivery problems encountered by consumers.

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<sup>2</sup>Consider a simple but illustrative case in which the value of the output of a steel consuming industry product is divided as follows: 60 percent materials costs, 30 percent labor costs and 10 percent profit or other value-added. If 40 percent of materials costs are steel costs, then 24 percent of the value of output (40 percent of 60 percent, or  $0.4 \times 0.6$ ) are steel costs. Suppose a tariff of 30 percent is imposed on all steel purchased, and that steel costs rise by 30 percent as a result. If other materials costs remain the same, total materials costs will rise by 12 percent (30 percent of 40 percent, or  $0.3 \times 0.4$ ). If labor costs and profits per unit of output remain the same, then the price of the product will increase by 7.2 percent (30 percent of 24 percent, or  $0.3 \times 0.24$ ). This example applies either if all the steel is imported, or if the price of all steel purchased (domestic or imported) increases in proportion with the tariff.

This simplified calculation also assumes that the price effects in different industries are isolated from each other and do not "spill over" between industries in the form of general-equilibrium or terms-of-trade effects. See the final section of this appendix for more discussion.

<sup>3</sup>In technical language, if the buyers have perfectly inelastic demand. This case is rare.

## *Size of the Tariff*

The first factor affecting cost is the size of the tariff. Regardless how it is passed through different industries, the larger the tariff, the larger the impact. Most steel purchases are of various forms of flat-rolled steel, which are subject to the highest tariffs (plate, hot-rolled, cold-rolled, corrosion resistant and tin mill, but not slab, which was subject to a tariff rate quota).<sup>4</sup> Overall, on a quantity basis, most purchases were of flat rolled steel, with corrosion resistant steel accounting for the largest share.<sup>5</sup> This pattern prevailed on a value basis for most industries, except for bar and wire finishers and fastener producers (table D-1). However, the type of steel purchased varied widely by firms within each steel consuming industry (table D-2).

## *The Role of Cost Shares*

The ability or willingness of a buyer to absorb an increase in the price of steel depends in part on its share of the total cost of production, or if production costs are small relative to total costs, say for a high technology firm or a firm with large marketing cost, the value of total output.<sup>6</sup> The relative importance of steel as an input varies widely across steel consuming industries. For example, in 1997 steel accounted for 46.2 percent of all materials costs for custom roll forming (table D-3). Its value share in total output that year was 31.0 percent. For motor vehicles and equipment, steel constituted no more than 0.6 percent of either materials costs or output value.<sup>7</sup> Thus, other things being equal, one would expect changes in the price of steel to have a larger impact on the custom roll forming industry than on the motor vehicle industry.

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<sup>4</sup>Flat-rolled steel other than slab was subject to an increase in duties of 30 percent *ad valorem* in the first year of the measure, hot-rolled bar and light shapes and cold-finished bar were subject to an increase of 30 percent, rebar was subject to an increase of 15 percent, welded tube was subject to an increase of 15 percent, fittings were subject to an increase of 13 percent, stainless bar and stainless rod were subject to an increase of 15 percent, and stainless wire was subject to an increase of 8 percent in the first year.

<sup>5</sup>See a further discussion of this in chapter 2 under *Steel consumption*.

<sup>6</sup>Of the components of value-added mentioned here wages appear in total costs of goods sold but not materials costs, while profit does not appear in costs but does appear in value of total output (i.e. revenues).

<sup>7</sup>Although the cost share as calculated here is low for motor vehicles and equipment, it would be significantly higher if one were to include steel-containing intermediate inputs.

**Table D-1**  
**Value shares of purchases by product and industry, April 2002/March 2003**

Industry category	Slab	Plate	Hot-rolled	Cold-rolled	Corrosion resistant	Tin mill	Hot bar	Cold bar	Rebar	Welded pipe	Fittings	Stainless			Various <sup>1</sup>	Total
												Bar	Rod	Wire		
<b>Steel-product producers/processors/distributors:</b>																
Distributors .....	2.4	7.5	16.3	13.9	19.5	0.5	3.8	2.0	5.1	5.2	1.5	1.0	0.1	10.3	10.9	100.0
Producers of hot/cold-rolled or coated forms .....	35.3	0.0	28.0	25.5	2.4	0.0	3.6	0.0	0.0	1.4	0.0	0.0	0.0	0.0	3.7	100.0
Welded pipe producers .....	0.0	0.5	57.9	14.0	0.3	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	26.4	100.0
Bar and wire finishers .....	0.0	0.0	0.5	0.0	0.0	0.0	56.3	0.9	0.0	21.2	0.0	1.3	16.5	1.4	1.9	100.0
Fastener producers .....	0.0	0.0	2.5	1.8	0.2	0.0	5.0	16.5	0.0	0.0	0.0	0.0	67.7	0.8	5.5	100.0
Steel fabricators .....	0.0	0.1	6.4	40.8	6.4	0.4	14.3	1.3	0.5	2.4	1.5	0.1	0.5	0.1	25.2	100.0
<b>Transportation:</b>																
Motor vehicles .....	0.0	0.0	10.6	15.9	72.3	0.0	0.9	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	100.0
Motor vehicle parts .....	0.0	0.5	5.6	7.3	8.2	1.3	24.5	1.0	0.0	0.5	0.0	0.1	0.0	0.8	50.4	100.0
Ships and shipping containers; military .....	0.0	0.0	0.0	36.1	0.0	0.0	0.2	2.3	0.0	0.0	0.0	0.2	0.0	0.5	60.6	100.0
<b>Machinery and equipment:</b>																
Heavy machinery .....	0.0	32.8	15.6	2.0	0.0	0.0	16.6	3.1	0.0	13.5	14.4	0.1	0.2	0.0	1.8	100.0
Power, other machinery .....	0.0	0.5	0.6	79.2	1.4	0.0	1.1	2.2	0.0	8.6	0.0	3.5	0.0	0.0	2.9	100.0
<b>Construction</b> .....	0.0	2.4	8.4	4.7	32.4	0.0	6.0	0.0	12.6	0.6	0.0	0.4	0.4	0.1	31.9	100.0
<b>Containers:</b>																
Steel barrels and cans .....	0.0	0.0	0.0	7.9	0.0	83.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	100.0
<b>Consumer and commercial goods:</b>																
Household appliances .....	0.0	0.0	2.2	46.6	33.2	0.5	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	16.6	100.0
Furniture, hardware, cutlery .....	0.0	0.2	0.9	42.5	19.9	0.4	0.0	0.5	0.0	2.2	0.0	0.0	0.3	0.0	33.1	100.0

<sup>1</sup> Various denotes all reported purchases in which firms did not separate data by product purchased.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table D-2  
Number of steel-consuming firms in each industry reporting purchases of specific steel products**

	Hot-rolled										Weld				
	Total	Slab	Plate	Hot-rolled	Cold-rolled	Tin mill	Hot bar	Cold bar	Rebar	Weld pipe	Flange	Bar	Rod	Wire	
<b>Steel-product producers/processors/distributors:</b>															
Distributors .....	75	2	26	23	30	27	7	25	18	14	21	6	10	3	5
Producers of hot/cold-rolled or coated forms .....	22	6	1	12	11	5	0	3	1	0	2	0	0	0	0
Welded pipe producer	18	1	1	13	6	2	0	1	0	0	3	0	0	0	0
Bar and wire finishers .....	18	0	0	1	0	0	0	5	5	0	0	0	4	9	7
Fastener producers	15	0	0	5	5	2	0	5	3	0	0	0	1	5	5
Steel fabricators ...	66	0	8	33	42	24	3	15	8	1	12	2	3	2	2
<b>Transportation:</b>															
Motor vehicles .....	9	0	1	8	7	6	0	4	2	0	4	1	2	1	1
Motor vehicle parts	64	0	3	34	39	17	8	16	13	1	11	1	6	2	5
Ships and shipping containers; military	8	0	4	4	4	1	0	5	5	0	2	2	4	2	2
<b>Machinery and equipment:</b>															
Heavy machinery ..	15	0	15	11	4	1	0	8	6	0	6	3	1	1	0
Power, other machinery .....	30	1	8	8	14	7	0	8	11	1	8	8	9	2	4
<b>Construction .....</b>	<b>28</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>8</b>	<b>0</b>	<b>13</b>	<b>2</b>	<b>9</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>2</b>
<b>Containers:</b>															
Steel barrels and cans .....	12	0	0	0	6	2	8	0	0	0	1	0	0	0	0
<b>Consumer and commercial goods:</b>															
Household appliances .....	7	0	0	5	7	5	2	0	1	0	0	0	0	0	0
Furniture, hardware, cutlery .....	15	0	3	6	10	5	1	3	5	0	2	0	2	2	1
<b>Total .....</b>	<b>402</b>	<b>10</b>	<b>78</b>	<b>171</b>	<b>192</b>	<b>112</b>	<b>29</b>	<b>111</b>	<b>80</b>	<b>26</b>	<b>79</b>	<b>27</b>	<b>45</b>	<b>30</b>	<b>34</b>

Source: Compiled from data submitted in response to Commission questionnaires.

**Table D-3**  
**Purchased steel products: Cost shares of material inputs and value shares of gross output by industry categories, 1997**

Description	Cost share of purchased steel to all materials <sup>1</sup>	Value share of purchased steel to total output <sup>2</sup>
	----- Percent -----	
<b>Iron and steel mills:<sup>3</sup></b>		
Iron and steel mills <sup>4</sup> .....	25.5	18.8
Iron, steel pipe and tube from purchased steel <sup>4</sup> .....		
Rolled steel shape manufacturing <sup>4</sup> .....		
Steel wire drawing <sup>4</sup> .....		
<b>Other ferrous metals:</b>		
Custom roll forming .....	46.2	31.0
Ferroalloy and related product manufacturing .....	2.8	1.7
Ferrous metal foundries .....	4.6	2.6
Iron and steel forging and stamping .....	32.7	18.3
<b>Upstream:</b>		
Coal mining .....	1.8	1.0
Energy .....	0.3	0.1
Iron ore mining .....	3.4	2.3
<b>Fabricated metal products:</b>		
Ball and roller bearing manufacturing .....	11.9	6.4
Cutlery and flatware except precious manufacturing .....	7.1	2.8
Electroplating anodizing and coloring metal .....	7.0	3.1
Enameled iron and metal sanitary ware manufacturing .....	11.7	4.7
Fabricated structural metal manufacturing .....	24.2	13.5
Hand and edge tool manufacturing .....	16.9	8.1
Hardware manufacturing .....	16.8	8.7
Industrial pattern manufacturing .....	2.2	0.8
Kitchen utensil pot and pan manufacturing .....	7.6	4.8
Machine shops .....	8.5	4.2
Metal can, box, and other container manufacturing .....	16.9	13.1
Metal coating and nonprecious engraving .....	31.7	17.2
Metal heat treating .....	1.5	0.7
Metal tank heavy-gauge manufacturing .....	37.0	19.9
Metal valve manufacturing .....	8.9	4.2
Metal window and door manufacturing .....	16.4	9.4
Miscellaneous fabricated metal product manufacturing .....	12.3	6.9
Ornamental and architectural metal work manufacturing .....	29.2	15.7
Other ordnance and accessories manufacturing .....	0.9	0.3
Plate work manufacturing .....	34.6	16.8
Power boiler and heat exchanger manufacturing .....	25.4	12.3
Prefabricated metal buildings and components .....	37.0	26.6
Saw blade and handsaw manufacturing .....	30.6	14.7
Sheet metal work manufacturing .....	21.6	10.9
Small arms manufacturing .....	7.7	3.5
Spring and wire product manufacturing .....	45.6	24.1
Turned product and screw nut and bolt manufacturing .....	23.3	10.9
<b>Durable manufacturing:</b>		
Construction and mining machinery and equipment .....	8.3	5.8
Durable manufacturing, not elsewhere classified .....	2.3	1.5
Electric power transformers and motors .....	12.7	8.0
Electronic and electrical equipment .....	1.1	0.6
Farm and garden machinery and equipment .....	13.1	8.3
Industrial machinery and equipment .....	7.8	4.7
Major household appliances .....	8.6	6.2
Metal furniture .....	11.0	5.8
Motor vehicle parts .....	11.1	7.9
Motor vehicles and equipment .....	0.6	0.5
Other transport equipment .....	1.5	1.0
Railroad rolling stock manufacturing .....	11.2	8.4
Ship building and repairing .....	8.2	4.5

Continued table.

**Table D-3—Continued**  
**Purchased steel products: cost shares of material inputs and value shares of gross output by industry categories, 1997**

Description	Cost share of purchased steel to all materials <sup>1</sup>	Value share of purchased steel to total output <sup>2</sup>
	-----Percent-----	
<b>Other sectors:</b>		
Agriculture and forest products . . . . .	0.4	0.2
Commercial and institutional buildings . . . . .	0.9	0.5
Construction maintenance and repair . . . . .	1.7	0.9
Highway street bridge and tunnel construction . . . . .	0.8	0.4
Manufacturing and industrial buildings . . . . .	0.2	0.1
Nondurable manufacturing . . . . .	0.2	0.1
Other new construction . . . . .	0.8	0.4
Residential construction . . . . .	1.4	0.8
Resource extraction, not elsewhere classified . . . . .	2.2	1.3
Services . . . . .	0.1	0.0
Water, sewer, and pipeline construction . . . . .	5.0	3.0

<sup>1</sup> Calculated from the ratio of steel inputs to the sum of all material inputs.

<sup>2</sup> Calculated from the ratio of steel inputs to the sum of all material inputs plus value-added factors (capital, labor, and indirect business taxes).

<sup>3</sup> Industry categories including subject products.

<sup>4</sup> Not delineated separately among consuming industries in the baseline table.

Source: Compiled from official statistics of the U.S. Department of Commerce, Bureau of Economic Analysis, 1997 Benchmark Input-Output Accounts.

The shares of steel in raw materials costs and total costs, based on testimony, submissions, and questionnaire responses developed for this investigation, is presented in table D-4.<sup>8</sup> Cost shares in both tables D-3 and D-4 are higher for steel-product producers, processors and distributors and motor vehicle parts producers, than for producers of machinery and equipment and construction firms (other than rebar fabricators).

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<sup>8</sup>Table D-3 is based on economywide data from the input-output tables of the United States for 1997. Although this source has cost shares for a more detailed and comprehensive list of industries than the data in table D-4, the cost shares include some steel not subject to the safeguard measures. In table D-3, “steel” is an aggregation of those industry categories of the input-output tables that would include the steel products subject to this investigation: 331111 (iron and steel mills), 331210 (iron, steel pipe and tube from purchased steel), 331221 (rolled steel shape manufacturing), and 331222 (steel wire drawing).

Shares in table D-4 are larger for the most steel-intensive industries because calculations are based on less aggregated industry or firm level data that are generally not available to the public for all steel consuming industries. The cost share data presented in Morici (2003) are generally smaller for the most steel intensive industries because his calculations average high cost and value shares together with low cost and value shares across broader industry groups. Peter Morici, *An Assessment of Steel Import Relief Under Section 201 After One Year*, Mar. 2003, found at <http://www.steel.org/images/pdfs/MoriciPaper2003.pdf>, retrieved Apr. 1, 2003.

Table D-4

## Purchased steel: Cost shares of purchased steel by industry categories, April 2002/March 2003

Industry	Testimony and submissions		Questionnaire responses	
	Share of costs <sup>1</sup>	Share of raw material costs	Share of raw material costs	Share of total costs of goods sold
		Percent		
<b>Steel-product producers/processors/distributors:</b>				
Distributors	almost 100.0	99.0	99.0	89.8
Producers of hot/cold-rolled or coated forms	40.0-100.0	95.3	95.3	74.0
Welded pipe producers	66.7-100.0	94.4	94.4	54.3
Bar and wire finishers	65.0-75.0	99.3	99.3	71.5
Fastener producers	---	95.1	95.1	35.9
Steel fabricators	37.8-70.0	90.0	90.0	42.3
<b>Transportation:</b>				
Motor vehicles	---	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Motor vehicle parts	40.0-95.0	79.8	79.8	38.6
Ships and shipping containers; military	---	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
<b>Machinery and equipment:</b>				
Heavy machinery	10.0-50.0	13.6	13.6	9.5
Power, other machinery	---	14.4	14.4	8.6
<b>Construction<sup>3</sup></b>	0.0-80.0	91.9	91.9	62.8
<b>Containers:</b>				
Steel barrels and cans	50.0-70.0	83.7	83.7	49.0
<b>Consumer and commercial goods:</b>				
Household appliances	---	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Furniture, hardware, cutlery	---	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Total	0.0-100.0	64.7	64.7	30.2

<sup>1</sup> Industry representatives reported steel share of costs in a variety of ways including as a share of raw material costs and as a share of total cost of the end product.

<sup>2</sup> Data suppressed due to confidentiality.

<sup>3</sup> Reported cost shares ranged from 0 to 20 percent of total construction project costs, to 25 percent of storage tank costs, and 60 to 80 percent of rebar costs.

Source: Compiled from data submitted in response to Commission questionnaires, hearing testimony, and submissions and interviews with industry sources.

## ***Substitutability***

The pass through of cost imposed by a duty on steel is constrained by the ability of purchasers to substitute inputs. The increase in steel costs, either directly or indirectly, is at least partly avoided if the steel consuming industry can substitute so as to use less tariff-bearing steel per unit of output. This substitution can happen in several ways. Subject steel can be replaced with domestic steel, or steel from countries that are not covered by the relevant tariffs. Buyers may substitute different grades of steel to avoid tariff increases. Multi-product firms may be able to alter the product mix to avoid cost increases. Similarly, firms with flexible technology can alter their steel needs to avoid cost increases. Firms can move to alternative materials such as aluminum or, in some circumstance, plastics. These are typically considered “long-run” changes. However, a significant increase in the cost of steel would tend to hasten the process and could, in some cases, stimulate significant adjustments in the short-run.

It is often easier to find alternative suppliers of commodity steel (e.g., forms of flat-rolled in standard specifications) than of specialty steel, which usually is available from a limited number of suppliers. While it varies by steel consuming industry, each industry has firms that purchase specialized steel products, increasing their exposure to any duty.<sup>9</sup> For example, the motor vehicle parts industry has a high percentage of producers who purchase specialized or engineered steels designed to meet high manufacturing tolerances and quality standards that are available from a limited number of suppliers. The impact of safeguard measures will vary across industries and among firms within those industries.

Substitution may also be limited by simple availability. Steel consuming firms that traditionally purchased from foreign sources that are affected by the duty, or from domestic mills that closed in the beginning of the relief period, need to establish business relationships with new steel suppliers. The extent to which domestic steel suppliers favor established customers over new customers is unknown, but steel consuming firms that must acquire new suppliers may experience disruptions in their ability to source material as they shift to new suppliers.

## ***Market Structure***

The ability of a firm to pass on price increases to its final customers, or to withstand price increases from its suppliers, is a function of its bargaining power, which is derived from its market power. Bargaining power is largely a function of relative size (that is, relative to the firms on the other side of the negotiation), strategic positioning or product differentiation (availability of substitutes, quality, reliability, ancillary services, etc). However, bargaining power may be enhanced, other things equal, in a more concentrated industry if competitors are able to act in concert, whether overt or tacit. In many cases there will be bargaining power on both sides of the market, that is on the part of buyers and sellers. In such cases, the extent of the pass through of a tariff is a negotiated result, determined by their relative bargaining power. Firms in concentrated industries tend to have more power to influence both their buying and selling prices.

The motor vehicle and can manufacturing industries are relatively concentrated. The construction and motor vehicle parts industries are relatively unconcentrated. Other things equal, the motor vehicle and can industries are more likely to be able to resist or reduce pass through of a duty to a greater extent than the construction or auto parts industries. In turn, the motor vehicle and can industries would be able to pass the increased cost from a duty through to customers more effectively as well. The ability to pass steel price increases on to customers can be limited, of course, by the market power of large customers or the

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<sup>9</sup>For further discussion, see chapter 2 under *Steel Consumption*.

existence of extensive excluded foreign competition.<sup>10 11</sup> One of the reasons frequently given for an inability to pass on costs is that there is increased competition from imports of steel-containing products.

Several steel consuming industries purchase enough of a particular type of steel to indicate that they could potentially exert market power over domestic steel mills: general construction (100 percent of the purchases of rebar), can manufacturers (82 percent of purchases of tin mill products; see table D-1) and steel service centers and distributors (at least one-half of the direct purchases from steel mills of hot-rolled, tubular products, stainless bar and stainless wire, and more than 40 percent of the purchases for plate, cold-rolled, and cold bar, see table D-5).<sup>12</sup> Of these industries, however, only can manufacturers are also highly concentrated by virtue of the small number of large firms in the industry.

No steel consuming industries or firms appear to be large enough to exert significant purchasing power over steel service centers and distributors. The construction and automotive industries are the predominant customers for steel service centers and distributors, primarily purchasing flat rolled steel and long products, but with neither industry making up more than 30 percent of the market for service center products.<sup>13</sup> Service centers handle more than 30 percent of steel shipments in North America. They are particularly significant for the construction industry.<sup>14</sup> They can provide customers with a wide variety of grades and sizes produced by various steel producers; organize price information in catalogs; provide prompt delivery in small quantities; and perform services such as cutting-to-length. Customers buying from service centers are in a position analogous to homeowners buying small quantities of building materials from home improvement chains. The success of a service center depends on its ability to offer a wide variety of heterogeneous, differentiated products, and service centers are more likely to sell to smaller steel consuming firms that do not tend to have the bargaining power to purchase directly from steel mills.

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<sup>10</sup>Markets in which the exercise of pricing power is restrained by the threat of entry are known as *contestable markets*. William J. Baumol, John C. Panzar and Robert D. Willig, *Contestable Markets and the Theory of Industry Structure* (New York: Harcourt Brace Jovanovich, 1982).

<sup>11</sup>For a further discussion see the section *Steel Prices*, chapter 2.

<sup>12</sup>Data in table D-5 are domestic steel mill shipments by industry market classifications in calendar year 2002 for steel categories containing products subject to this investigation, according to the American Iron and Steel Institute (AISI). Among the subject product categories, carbon and alloy flanges and fittings are not included because such producers are not included among reporting firms. Further, shipments of carbon and alloy slabs are not reported separately from ingots or other semifinished forms (i.e., blooms and billets). Commission efforts to develop information on import shipments by market segment were unsuccessful. For a more detailed version of table D-5, see appendix D.

<sup>13</sup>A report for the Steel Service Center Institute (SSCI) found that steel service centers and processors shipped steel products (without further breakout by type of products) primarily to construction and contractors' products (27.6 percent share in 1997, latest year available), automotive industry (21.1 percent share), and machinery manufacturers (15.5 percent). Powell, Woodward & Associates, Inc., study prepared for the SSCI, *Steel Consumption in the United States and Canada, End Use Markets, Products, Channels of Sale*, table 8, "Estimated shipments, steel service centers and processors by major market class, 1997," Sept. 2000, p. 27.

<sup>14</sup>Canadian Steel Producers' Association, "Steel and the Automotive Industry," at [http://www.canadiansteel.ca/oldsite/markets/markets\\_construc.html](http://www.canadiansteel.ca/oldsite/markets/markets_construc.html), dated April 1998, downloaded Oct. 10, 2001.

**Table D-5**  
**Shipment shares of steel products from domestic mills, by market classifications, 2002**

Market classification	Carbon and alloy <sup>1</sup> steel						Stainless steel					
	Plate	Hot-rolled sheet and strip <sup>2</sup>	Cold-rolled sheet and strip <sup>3</sup>	Coated sheet and strip <sup>4</sup>	Tin-mill products	Hot-rolled bars and light shapes	Cold-finished bar	Rebar	Tubular products <sup>5</sup>	Bar and light shapes	Rod	Wire
	-----Percent-----											
1. Steel for converting and processing into:												
010 Wire and wire products .....												
020 Hot- and cold-rolled sheets and strip ..		5.7	1.7	0.1			0.5					48.5
025 Sheet and strip for painting or coating .		1.9	8.3	0.1							0.1	0.7
030 Pipe and tubes .....	2.6	16.4	5.5	0.3			12.1		4.2		0.3	0.3
040 Cold-finished bars .....		0.2					12.7		0.2			
050 Other steel products, steel castings ..	0.1	0.5	1.2	0.3	0.1		0.2		1.3		0.4	0.3
060 Resale shipments .....	1.0	0.4	1.3	0.2	0.9		0.5		0.2		0.3	0.3
Total .....	3.6	25.1	17.9	1.1	0.1		26.0		2.8		0.4	49.8
Less shipments to reporting companies ..		4.7	6.8	0.1			12.0		0.2			5.2
Total .....	1.1	20.4	11.1	0.9	0.1		14.1		4.2		0.4	49.8
2. 070 Forgings (other than for automotive and aviation) .....							10.1		0.2		0.6	
3. 080 Industrial fasteners .....							2.2		1.8		1.8	6.3
4. 140 Steel service centers and distributors .	48.1	52.5	40.9	25.9	10.1		8.2		42.3		50.5	92.2
5. Construction and contractors' products:												
183 Metal building systems .....	0.2	2.6		4.7								
185 Bridge and highway construction .....	8.6			0.9								
187 General construction .....	18.9	6.7	1.5	4.3			23.2		0.8	100.0	1.9	
196 Culvert and concrete pipe .....	0.3		0.1	1.0								
270 Central air conditioning, heating, cooling, and ventilating systems .....	0.3	0.1	0.3	3.4								
290 Hardware .....		0.2	1.7	3.6					0.4			0.9
300 Plumbing equipment .....		0.4	1.0						0.4			0.2
322 Rain goods, roofing, and siding .....		0.1	0.7	4.0					0.5			
325 Framing and related products .....		0.1		3.7							0.3	
326 Doors and windows .....		0.1	0.2	0.5								
Total .....	28.3	10.3	5.5	26.0			23.2		1.6	100.0	2.4	0.9
Total .....												

Table continued.

**Table D-5—Continued**  
**Shipment shares of steel products from domestic mills, by market classifications, 2002**

Market classification	Carbon and alloy <sup>1</sup> steel						Stainless steel					
	Plate	Hot-rolled sheet and strip <sup>2</sup>	Cold-rolled sheet and strip <sup>3</sup>	Coated sheet and strip <sup>4</sup>	Tin-mill products	Hot-rolled bars and light shapes	Cold-finished bar	Rebar	Tubular products <sup>5</sup>	Bar and light shapes	Rod	Wire
	-----Percent-----											
7. Automotive:												
330 Vehicles, parts, and accessories . . . . .	0.6	6.4	15.8	38.0		14.7	18.2		3.2			
340 Trailers, all types . . . . .	0.2						0.2		1.0			
350 Parts and accessories—Independent . . . . .	0.2	4.2	3.8	4.6	1.7	6.3	9.5		3.4	0.2	1.3	1.3
360 Independent forgers (automotive and aviation) . . . . .						7.7	0.2					
Total . . . . .	1.0	10.6	19.7	42.7	1.7	28.7	28.1		7.6	0.2	1.3	1.3
8. Rail transportation:												
370 Railway rails, track work, and equipment . . . . .							0.1					
390 Freight cars . . . . .	3.4	0.1	0.1			0.2						
395 Passenger cars, locomotives, and rapid transit . . . . .	0.4					0.1						
Total . . . . .	3.8	0.1	0.1			0.3						
9. 450 Shipbuilding and marine equipment . . . . .	4.1									0.3		
10. 482 Aircraft and aerospace . . . . .												
11. Oil and gas industry:												
493 Drilling and transportation . . . . .	1.8					0.6	1.0		22.8	0.2		
494 Storage tanks . . . . .	3.1	0.2							0.6			
495 Oil and gas, and chemical process vessels . . . . .	2.3								0.1		0.2	
Total . . . . .	7.3	0.2				0.6	1.0		23.4	0.2	0.2	
12. Mining, quarrying, and lumbering . . . . .	0.1					0.2			0.1			
13. Agricultural:												
530 Agricultural machinery . . . . .	0.9	0.5	0.1			2.7	2.6		0.9		0.1	
540 All other agricultural . . . . .			0.1	0.5			0.1					
Total . . . . .	0.9	0.5	0.2	0.5		2.7	2.7		0.9		0.1	
14. Machinery, industrial equipment and tools:												
550 Bearings . . . . .						2.3	4.6		5.5	0.2	0.1	3.6
555 Construction and materials handling equipment . . . . .	2.6	0.7				2.6	4.9		1.3			
610 Metal working equipment . . . . .	0.7	0.2	0.3			0.9	0.4		0.5	0.2	22.8	3.6
650 Other industrial equipment . . . . .	1.6	0.5	0.1			2.0	3.5		1.2	0.6		2.2

Table continued.

**Table D-5—Continued**  
**Shipment shares of steel products from domestic mills, by market classifications, 2002**

Market classification	Carbon and alloy <sup>1</sup> steel						Stainless steel				
	Plate	Hot-rolled sheet and strip <sup>2</sup>	Cold-rolled sheet and strip <sup>3</sup>	Coated sheet and strip <sup>4</sup>	Tin-mill products	Hot-rolled bars and light shapes	Cold-finished bar	Tubular products <sup>5</sup>	Bar and light shapes	Rod	Wire
	-----Percent-----										
14. Machinery, industrial equipment and tools (continued):											
652 Pumps, valves, and fittings . . . . .									0.8		0.4
653 Other food processing equipment . . . . .									0.2		
670 Hand tools . . . . .			0.2	0.1		0.3					
Total . . . . .	4.9	1.4	0.5	0.1		8.1	13.7	8.6	2.0	22.8	9.7
15. Electrical equipment:											
681 Power and communication equipment . . . . .	0.2		5.0	0.5		0.1	3.5	2.3	0.3		0.2
682 Electrical conduit and raceways . . . . .		0.1	0.3	0.2							
690 Electric lighting equipment and fixtures . . . . .		0.1	1.2	0.2							0.1
Total . . . . .	0.2	0.2	6.5	0.8		0.1	3.5	2.3	0.3		0.3
16. Appliances, utensils, and cutlery:											
725 Major home appliances . . . . .		1.4	7.0	2.2		0.2	1.5				
735 Portable home appliances . . . . .		0.1	0.2	0.4							
760-780 Utensils, galvanized ware, cutlery, and table flatware . . . . .			1.2	0.1	0.6						
Total . . . . .	1.5	1.5	8.4	2.7	0.6	0.2	1.5				
17. Other domestic and commercial equipment:											
795 General purpose furniture . . . . .		0.2	2.0	0.1							
805 Domestic and commercial specialized equipment . . . . .		0.2	0.6	0.2							
819 Commercial and institutional equipment, all other . . . . .									0.1		0.3
821 Surgical and hospital equipment . . . . .									0.2		0.2
829 Professional and scientific equipment, all other . . . . .									0.1		
835 Miscellaneous all other . . . . .	1.2	1.2	0.7	0.1							0.1
Total . . . . .	1.6	1.6	3.3	0.3					0.3	0.9	0.5

Table continued.

**Table D-5—Continued**  
**Shipment shares of steel products from domestic mills, by market classifications, 2002**

Market classification	Carbon and alloy <sup>1</sup> steel						Stainless steel			
	Plate	Hot-rolled sheet and strip <sup>2</sup>	Cold-rolled sheet and strip <sup>3</sup>	Coated sheet and strip <sup>4</sup>	Tin-mill products	Hot-rolled bars and light shapes	Cold-finished bar	Tubular products <sup>5</sup>	Bar and light shapes	Rod Wire
	-----Percent <sup>6</sup> -----									
18. Containers, packaging, and shipping:										
870 Cans-sanitary and general line . . . . .			0.6		82.2					
890 Crown caps and other closures . . . . .			2.1		5.1					
925 Steel barrels and drums . . . . .			0.8							
930 Shipping pails . . . . .			0.1			0.4				
940 Compressed gas cylinders . . . . .		0.1								
961 Baling, binding, strapping, and tying . .		0.7								
962 Miscellaneous boxes, containers, and components . . . . .		0.1								
Total . . . . .	0.1	0.8	3.8	0.1	87.4	0.6	0.7	1.2	0.1	0.1
19. 970 Ordnance and other military . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All market classification shipments <sup>7</sup> . .										
	----- (1,000 short tons) -----									
All market classification shipments . . .	3,261	16,372	10,883	17,861	2,976	3,224	478	1,750	2,383	61,207
Non-classified shipments . . . . .	1,583	6,542	1,801	1,274	51	3,317	788	4,678	835	62,302
subtotal domestic . . . . .	4,844	22,914	12,684	19,135	3,028	6,541	1,266	6,428	3,217	123,509
20. 980 Export (reporting companies only) . . .	57	116	526	521	107	141	18	0	125	6,274
Total, all groups . . . . .	4,901	23,030	13,210	19,657	3,134	6,682	1,285	6,428	3,342	129,783

<sup>1</sup> Excludes tool steels.

<sup>2</sup> Including plate in coils.

<sup>3</sup> Other than electrical steel.

<sup>4</sup> Includes corrosion-resistant sheet and strip.

<sup>5</sup> No distinction between welded and seamless tubular products. Excludes oil country tubular goods.

<sup>6</sup> Shipment shares less than 0.05 percent are not shown.

<sup>7</sup> Percentages may not sum to total due to rounding.

Source: Statistics of the American Iron and Steel Institute, Washington, DC (AIS 16C-12, 16A-12, and 16S-12).

The buyer-seller relationship in steel is shaped in many instances by long-term contracts. These contracts represent a high degree of coordination between producer and user, and permit more predictability in the price paid and received than do spot markets. Use of these contracts is reported to be a typical business practice in the motor vehicle industry.<sup>15</sup> Coordination between steel producers and automakers to develop new steel grades and applications for new automotive designs typically take place far in advance of production. Vehicle makers are thus able to assure a certain amount of price stability. The way in which changes in circumstances, such as the implementation of a tariff, influence the price may be determined by contingencies in the contractual arrangements, or by one side leaving the contract by pre-agreement or breaching. Although many steel consuming firms purchase steel through annual contracts, which may limit their exposure to the safeguard measures, in some cases contracts may be broken by suppliers or customers.<sup>16</sup>

Other market intermediaries for steel include trading companies, some of which are large international concerns, and e-commerce operations.<sup>17</sup> During the period examined, E-commerce operations have emerged to a limited degree in both non-ferrous metals and steel.<sup>18</sup>

## **Market Characteristics of Steel-Consuming Industries**

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### ***Sector and Industry Specific Market Characteristics***

The following section describes market characteristics for certain steel consuming industries in six sectors: steel-products producers, processors, and distributors; transportation equipment; machinery and equipment; construction; containers; and consumer and commercial goods. Based on market characteristics, each sector will feel the impact of the safeguard measures differently. Similarly, within sectors, individual firms will feel the effect of the safeguard measures differently.

Many firms in steel consuming industries are capital intensive, have highly automated production processes, and have recently experienced consolidation. Regardless of the industry or sector, the effects of the safeguard measures are likely to be magnified at smaller firms. Consistent with questionnaire responses and hearing testimony discussed in Chapter 2, smaller producers that purchase steel subject to

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<sup>15</sup>Canadian Steel Producers' Association, "Steel and the Automotive Industry," at [http://www.canadiansteel.ca/oldsite/markets/markets\\_auto.html](http://www.canadiansteel.ca/oldsite/markets/markets_auto.html), dated April 1998, downloaded Oct. 10, 2001. The information on the site about customer markets for steel is meant to describe an integrated North American market; see "Customer Markets for Steel: An Overview," at [http://www.canadiansteel.ca/oldsite/markets/market\\_overview.html](http://www.canadiansteel.ca/oldsite/markets/market_overview.html), dated April 1998, downloaded Oct. 10, 2001.

<sup>16</sup>See a further discussion of this topic in chapter 2 under the section *Contract Abrogation*.

<sup>17</sup>E-commerce represents the opposite extreme from vertical integration. Through e-commerce it is possible for buyers and sellers with no previous history to quickly make deals: for example, at Steel Market International (<http://www.steel-market.com/>) steel billets are offered from stock from Germany, India, Italy, and Ukraine, including postings from trading companies. As in the case of steel centers, buyers and sellers transacting steel through trading companies or e-commerce exhibit a high willingness to accept prices based on current market conditions, which may sustain impacts from the safeguard measures.

<sup>18</sup>Vincent De Sapio, "E-Commerce and Non-Ferrous Metals: Despite Potential Adoption Has Been Slow," *International Trade and Technology Review*, USITC publication 3457, October 2001 and Tracy Quilter, "Steel Sector Explores E-Commerce Although Wary of Quick Transition," *International Trade and Technology Review*, USITC publication 3363, October 2000, pp. 7-18.

the highest tariffs, have higher cost shares of steel among steel consuming industries,<sup>19</sup> have little or no market power, and purchase speciality products predominately from steel service centers appear to be particularly vulnerable.

The safeguard measures may also add momentum to certain pre-existing industry trends of firm strategies. For example, numerous factors contribute to shifts in manufacturing from U.S. facilities to foreign plants. Determining the weights to assign to these different factors when such a move actually takes place is difficult even at the firm level; across an industry or sector it becomes even more problematic. However, a relative increase in raw material costs, when combined with other considerations (even for a short time period), may convince steel consuming firms to move to overseas production or parts acquisitions. Although the imposition of safeguard measures likely contributed to some steel consuming firms moving to offshore manufacturing or sourcing of parts or products, it is impossible to specifically attribute the extent to which such activity resulted from safeguard measures.

### **Steel-Product Producers, Processors, and Distributors<sup>20</sup>**

Because steel accounts for a significant share of both input costs and cost-of-goods-sold, steel-products producers, processors, and distributors are affected by the safeguard measures. These effects are mitigated to some extent because firms in these industries source the majority of their steel from domestic producers, because firms in these industries purchase various grades and types of steel subject to different safeguard tariff rates between different product groups, and due to exclusions granted to some products consumed by this group.

Hot-rollers and cold-rollers, welded and seamless pipe producers, bar finishers, coating processors, and wire drawers use steel inputs covered by the safeguard measures to produce other steel mill products, many of which are also covered by the safeguard measures. For such firms, the safeguard measures should affect both input costs and selling price, although not necessarily in equal measure.<sup>21</sup> In contrast, industrial fastener producers, steel fabricators, forgers, and stampers process subject steel mill products into fabricated steel products that are not covered by the safeguard measures. Steel distributors and service centers purchase covered steel products from mills or importers and resell the products in smaller lot sizes to facilitate just-in-time delivery. They also perform cutting, slitting, and other value-added services to customer specifications.

In addition to questionnaire data in table D-4 and the BEA data in table D-3, industry representatives report that the share of steel as an input cost for steel-product producers, processors, and distributors ranges from 40 percent to almost 100 percent. Industry representatives also report that the share of steel as an input cost for both cold rollers and forgers ranges from 40 percent to 60 percent,<sup>22</sup> while steel represents 40 percent to 70 percent of the total cost of goods sold for metal formers.<sup>23</sup> For welded pipe, steel accounts for approximately two-thirds of the total cost of production,<sup>24</sup> and for bar

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<sup>19</sup>The industry reported cost shares in this section vary according to the concept of cost share used and may not be directly comparable across all industries and sectors. For further discussion, see the section *The Role of Cost Shares*, earlier in this appendix.

<sup>20</sup>Includes firms who both purchase and produce steel mill products.

<sup>21</sup>For instance, welded pipe producers face a higher tariff in their input (flat rolled) than on tubular products produced.

<sup>22</sup>Industry representative, correspondence with USITC staff, June 2, 2003; and industry representative, telephone interview with USITC staff, May 13, 2003.

<sup>23</sup>Industry representative, e-mail correspondence with USITC staff, May 20, 2003.

<sup>24</sup>Industry representative, telephone interview with USITC staff, May 22, 2003.

finishers, steel accounts for 65 percent to 75 percent of total production costs. Distributors and service centers purchase steel for resale; thus they report that steel comprises essentially all of their input costs.<sup>25</sup>

Many firms in these industries are highly capital intensive and in recent years a number of firms in the steel-product producer, processor, and distributor industries have consolidated, eliminating excess capacity through mergers and the exits of primarily smaller firms.<sup>26</sup> Such consolidation theoretically should have increased the market power of the consolidated firms, but it is unclear how much this was offset by structural changes in upstream and downstream industries. Alternatively, some of these industries, such as industrial fastener producers and steel fabricators, forgers, and stampers, are highly fragmented. With the exception of a few large firms, the firms within these industries are unlikely to wield much market power.

The ability of firms in these industries to limit the effect of the safeguard measures by substituting grades of steel subject to lower or no tariffs varies by industry. Although service centers predominantly purchase commodity grades of steel, there is growing customer demand for specialized grades from service centers.<sup>27</sup> The forging industry typically purchases specialized and proprietary steel products,<sup>28</sup> while bar finishers, wire drawers, and industrial fastener producers primarily purchase specialized products.<sup>29</sup> Cold-rolled producers purchase commodity, specialized, and proprietary grades of steel,<sup>30</sup> while hot-rolled producers purchase primarily commodity and specialized grades.<sup>31</sup>

Most firms in these industries purchase steel from both U.S. and foreign sources, with the majority of steel purchased being domestically produced.<sup>32</sup> However, hot-rolled producers purchase slabs primarily from foreign sources.<sup>33</sup> Also, a lack of regional feedstock suppliers on the West Coast raises the importance of foreign steel for coaters in that region.<sup>34</sup>

The prevalence of long-term contracts with mills varies widely in this sector. For example, the forging industry predominantly purchases steel directly from mills, under annual or bi-annual contracts. However, smaller firms within the forging industry regularly purchase steel from service centers, importers, or distributors (often at spot prices) because they cannot meet the minimum quantity requirements for direct mill sales.<sup>35</sup> In contrast, the majority of steel purchased by the cold-finished bar industry is purchased directly from mills, on a spot basis, with the remainder purchased under semi-annual or annual contracts. Distributors and service centers purchase steel primarily from mills and importers, using increasingly complex pricing arrangements.<sup>36</sup>

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<sup>25</sup>Industry representative, e-mail correspondence with USITC staff, May 19, 2003 and May 28, 2003.

<sup>26</sup>Industry representatives, e-mail correspondence and telephone interviews with USITC staff, May 13, 2003, May 19, 2003, May 22, 2003, May 28, 2003, and June 2, 2003.

<sup>27</sup>Industry representative, e-mail correspondence with USITC staff, May 19, 2003 and May 28, 2003.

<sup>28</sup>Industry representative, telephone interview with USITC staff, May 13, 2003.

<sup>29</sup>Industry representatives, e-mail correspondence with USITC staff, May 19-28, 2003.

<sup>30</sup>Industry representative, correspondence with USITC staff, June 2, 2003.

<sup>31</sup>Industry representative, correspondence with USITC staff, June 24, 2003.

<sup>32</sup>Industry representative, telephone interview with USITC staff, May 13, 2003, and industry representatives; industry representative, correspondence with USITC staff, June 2, 2003; and e-mail correspondence with USITC staff, May 19-28, 2003.

<sup>33</sup>Industry representative, correspondence with USITC staff, June 24, 2003.

<sup>34</sup>Industry representative, e-mail correspondence with USITC staff, July 18, 2003.

<sup>35</sup>Industry representative, telephone interview with USITC staff, May 13, 2003.

<sup>36</sup>Industry representative, e-mail correspondence with USITC staff, May 19, 2003 and May 28, 2003.

## Transportation Equipment

The U.S. transportation equipment sector is a leading consumer of steel mill products, led by the producers of motor vehicles and motor vehicle parts, which accounted for nearly 98 percent of domestic steel mill shipments for the transportation sector in 2002.<sup>37</sup> The bulk of the industry's steel purchases are subject to the highest safeguard tariffs: forms of flat-rolled carbon and alloy steel represent nearly 90 percent of domestic steel mill shipments to the motor vehicle and parts industries.

The U.S. motor vehicle industry<sup>38</sup> consists of the Big Three (Ford, DaimlerChrysler, and General Motors) and several Japanese and German transplant operations that produce passenger cars and light trucks. Although considerably less vertically integrated than before the divestiture of their extensive parts-making operations within the last 10 years, the Big Three still largely produce their own powertrains but outsource many other vehicle components and systems from independent producers. The Japanese and German transplants pursue similar manufacturing strategies.

In contrast, the parts industry comprises thousands of firms manufacturing a broad spectrum of components for both the vehicle producers (original equipment manufacturers (OEMs)) and the aftermarket (replacement parts). The OEM-supplying industry is characterized by its tier structure. An increasing level of sales is concentrated in a small number of large Tier 1 multinational producers that supply higher-valued modules and systems directly to the automakers. These producers purchase components from hundreds of smaller companies that make up Tier 2 and Tier 3.

The automotive industry is highly capital intensive, and manufacturing processes are largely automated. Consequently, it is possible that reductions in industry production levels related to the safeguard measures may result in higher unit production costs. Existing overcapacity may already prevent full utilization of installed machinery and equipment.

Although the vehicle and parts industries share some characteristics, differences in the market situation of the vehicle producers vis-a-vis the parts producers do exist. Despite the large quantities of steel consumed by the motor vehicle producers, the cost share of direct purchases of steel for motor vehicle producers is less than one percent.<sup>39</sup> In contrast, steel represents an estimated 40 percent to 95 percent of the cost of material inputs for the motor vehicle parts industry,<sup>40</sup> and purchased steel as a share of total raw material costs for the motor vehicle parts industry averaged nearly 80 percent for questionnaire respondents (table D-4).

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<sup>37</sup>Other steel consuming transportation industries include producers of railway equipment and ships and barges.

<sup>38</sup>Motor vehicles include passenger cars and light trucks, medium- and heavy-duty trucks, buses, specialty vehicles, motor homes, truck trailers, travel trailers and campers, and chassis and bodies.

<sup>39</sup>However, their vulnerability to the safeguard measures may be understated since they also purchase steel-containing products from the motor vehicle parts producers. The typical passenger car averaged 54 percent by weight of steel in 2001. See Office of Transportation Technologies, *Average Material Consumption for a Domestic Automobile*, found at Internet address <http://ott.doe.gov/facts/archives>, provided by MEMA, post-hearing submission to the USITC, for Investigation No. 332-452, June 27, 2003, p. 17.

<sup>40</sup>Raw materials account for nearly 40 percent of the typical contract metal-forming company's sales dollar; for those companies that manufacture steel components, the flat-rolled steel share of the total raw material cost ranges between 90 to 95 percent. PMA, post-hearing submission to the USITC, for Investigation No. 332-452, June 26, 2003, p. 2. Steel costs accounted for 40 percent to 70 percent of MEMA hearing participants' total cost of production. Testimony of Jon Jenson, Vice Chairman, Consuming Industries Trade Action Coalition (CITAC) Steel Task Force, transcript of Commission hearing, June 19, 2003, p. 139.

Highly engineered products and lengthy certification procedures for individual steel producers limit the ability for both vehicle manufacturers and parts producers to substitute steel from one supplier for another. The Big Three automakers purchase the majority of their direct steel requirements from North American steel suppliers,<sup>41</sup> and the Association of International Automobile Manufacturers (AIAM) indicates that its members procure more than 95 percent of the steel consumed in their U.S. operations from U.S. steel sources.<sup>42</sup> Because the vast majority of the steels purchased by these firms are produced domestically, the ability of automotive companies to obtain exclusions for comparable imported steel is likely to be limited.

Motor vehicle parts producers' ability to substitute steel sources is also constrained because they purchase specialized products that are available from a limited number of sources. These firms' purchases generally consist of specialized grade or engineered steels designed to meet high manufacturing tolerances and quality standards. Some of the large Tier 1 firms are able to take advantage of their manufacturing size to purchase directly from the steel mills, whereas other Tier 1 firms purchase from service centers. Because they generally lack the purchasing volume to buy directly from steel producers, Tier 2 and Tier 3 firms usually buy steel products from distributors or service centers. The automakers are able to purchase directly from the steel mills and enter into long-term contracts. Automakers have traditionally purchased steel pursuant to annual contracts, but many have moved to longer-term contracts, some of which extend for 3 to 5 years.<sup>43</sup>

The level of concentration in the motor vehicle assembly industry suggests that the automakers may be able to use their market power to limit increases in the price they pay for steel resulting from the safeguard measures and limit the impact of higher costs resulting from the safeguard measures by not accepting price increases from their component suppliers resulting from higher steel costs.<sup>44</sup>

In contrast, U.S. motor vehicle parts makers are more likely to source steel largely from more market-sensitive service centers and enter into shorter-term contracts than the automakers, thus wielding less purchasing and price influence with both their steel suppliers and the automakers.<sup>45</sup> In fact, these firms have reported contract abrogations and supply disruptions as a result of the safeguard measures.<sup>46</sup> Contract length varies among companies, with some companies entering into a mix of medium- and short-term contracts.<sup>47</sup> Some spot purchasing also occurs within the industry. Some parts manufacturers receive

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<sup>41</sup>Al Wrigley, "Car Talk: Wheeling and Dealing Steel in Detroit," *American Metal Market*, Dec. 23, 2002, p. 3.

<sup>42</sup>AIAM, post-hearing submission to the USITC, for Investigation No. 332-452, June 26, 2003, p. 1.

<sup>43</sup>As noted in a Dec. 23, 2002 article in the *American Metal Market*, "The percentage of multi-year contracts—including some three- and five-year deals—was higher than usual." Wrigley, "Car Talk."

<sup>44</sup>General Motors has indicated that, "we (GM) feel we have more leverage with the supply base today than we did a year ago." Brian Corbett, "GM aims to steady steel problems," *Ward's Engine and Vehicle Technology Update*, June 15, 2003, p. 3. However, one transplant automaker stated that U.S. steel companies deliberately breached its contracts by imposing price increases. Written submission of Mitsubishi Motors North America, June 20, 2003, p. 1. Another transplant automaker airlifted a steel shipment to the United States to avoid incurring a 30-percent price increase for domestically-produced steel. Post-hearing submission of AIAM, June 26, 2003, p. 2.

<sup>45</sup>For example, testimony of Jeffrey Stoner, Vice President, World Wide Procurement, ArvinMeritor, transcript of Commission hearing, June 19, 2003, p. 109. According to questionnaire responses, 79 percent of motor vehicle parts producers responding indicated that they were unable to pass along steel price increases to their customers.

<sup>46</sup>For further discussion, see chapter 2 under *Contract Abrogation*.

<sup>47</sup>Contracts range from 1 to 3 years. Testimony of Ramzi Hermiz, Vice President, Global Supply Chain Management, Federal-Mogul Corp., and Jeffrey Stoner, Vice President, World Wide Procurement, ArvinMeritor, Inc., transcript of Commission hearing, June 19, 2003, pp. 166, 180-181.

steel mill products from their customers through resale programs,<sup>48</sup> but these programs reportedly focus on commodity grade steels rather than engineered steels.<sup>49</sup>

Industry overcapacity and high levels of international competition likely contribute to the inability of the automotive producers to increase vehicle prices. International competition and overcapacity also tends to limit any market power OEM suppliers might have on the selling side, especially at the lower tiers, as the global industry is characterized by numerous, competitive firms. Suppliers are simultaneously under pressure to reduce component prices to gain and/or retain business with their customers,<sup>50</sup> and multi-year contracts between automakers and suppliers often include annual price reductions.<sup>51</sup> The demand for price cuts is not limited to automakers, however; large Tier 1 suppliers routinely make similar requests of their Tier 2 and Tier 3 suppliers.<sup>52</sup>

## Machinery and Equipment

The industries that make up this sector produce a wide and diverse spectrum of products ranging from electric motors and generators and related apparatus to farm, construction, and mining equipment. The leading steel consuming industries that produce machinery and equipment<sup>53</sup> typically are

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<sup>48</sup>Many of the leading U.S. automakers participate in resale programs, through which automakers reallocate their steel mill product purchases to their major suppliers of stampings and/or welded subassemblies. Wrigley, "Car Talk." For example, companies such as Ogihara America Corp., Oxford Automotive Inc., ThyssenKrupp Budd Co., and Tower Automotive Inc. receive most of the steel they use to produce body and structural stampings for domestic automakers on a reallocation basis from these automakers. Al Wrigley, "Vendors give thumbs up to flat-rolled resale program," *American Metal Market*, Dec. 20, 2002.

<sup>49</sup>MEMA, post-hearing submission to the USITC, for Investigation No. 332-452, June 27, 2003, p. 15. ArvinMeritor has a rebill program to supply primarily carbon steel to its parts suppliers. See testimony of Jeffrey Stoner, Vice President, World Wide Procurement, ArvinMeritor, Inc., before the USITC, hearing transcript, June 19, 2003, p. 163.

<sup>50</sup>Prior to contract award, the Big Three were reported to employ market testing, a process in which suppliers bid on a currently produced component and the existing manufacturer is required to meet the price to retain the contract. Automakers have also awarded contracts to the lowest bidder, disregarding established relationships with long-term suppliers that have incurred extensive capital outlays to produce the component. "Big 3 Squeeze Parts Makers; Firms Battle for Market Share Order Suppliers," *Globe and Mail*, Canadian Press, found at <http://itc.newsedge.com>, retrieved Apr. 28, 2003.

According to suppliers, this practice is prevalent with the more price-conscious Big Three, where cost rather than quality is considered to be of primary importance in contract awards. The German and Japanese transplant automakers, however, tend to develop more collaborative, long-term supplier relationships that emphasize a balance of cost and quality. The transplant automakers generally work with their suppliers to determine methods to reduce costs. Robert Sherefkin and Amy Wilson, "Why the Big 3 Can't be Japanese," *Automotive News*, Feb. 10, 2003, p. 6; "Annual OEM-Supplier Working Relations Study From Planning Perspectives: Domestic Big 3 Not Changing, Japanese Big 3 Keep Improving," May 12, 2003, found at <http://itc.newsedge.com>, retrieved May 12, 2003; and testimony of Larry A. Denton, President and Chief Executive Officer, DURA Automotive Systems, Inc., transcript of Commission hearing, June 19, 2003, pp. 222-23.

<sup>51</sup>For example, Dave Guilford, "GM Seeks Supplier Cost Cuts," *Automotive News*, Mar. 17, 2003, found at <http://www.autonews.com/article.cms?articleId=42920&a=a&bt=ford+price+cuts+suppliers>, retrieved Mar. 17, 2003; and testimony of Jeffrey Stoner, Vice President, World Wide Procurement, ArvinMeritor, Inc., transcript of Commission hearing, June 19, 2003, pp. 109-110.

<sup>52</sup>Testimony of Wes Smith, President, E&E Manufacturing Co., Inc., transcript of Commission hearing, June 19, 2003, p. 197.

<sup>53</sup>The machinery and equipment industry includes producers of power boilers and heat exchangers; farm, construction, and mining machinery and equipment; material-handling equipment such as overhead cranes, monorails, industrial trucks, tractors, and stacking equipment; power, distribution, and specialty electrical transformers; electric motors and generating equipment; switchgear and switchboard apparatus; relays and industrial control equipment; communication and energy wire and cable; current- and non-current carrying wiring devices; and

characterized by a top tier of large multinational producers (notably in industries producing farm, construction, and mining machinery; industrial truck and handling equipment; power transformers; and power boilers and heat exchangers) that dominate the market. Firms in this upper echelon typically exhibit a relatively high degree of vertical integration, highly automated production processes, and have experienced a substantial number of consolidations and departures in recent years.<sup>54</sup> Below this upper echelon, numerous other firms produce specialty or niche products or serve as component suppliers to the dominant firms.

The share of steel costs as a portion of material cost for firms in this sector varies widely (see table D-4). For a large percentage of the products produced within this sector the cost share of steel is about 10 to 30 percent, a range that was generally supported by testimony at the Commission's hearing.<sup>55</sup> However, many of these companies also purchase steel-containing parts and components. The purchase of certain specialized steels, such as cold-rolled, electrical grade steel, is a further obstacle for these steel consuming companies, as these products are manufactured by a limited number of domestic and foreign producers.

The ability of firms in these industries to limit the effect of the safeguard measures by substituting grades of steel subject to lower or no tariffs varies by industry. These industries consume various grades of steel, from subject commodity grades for the housing of certain products such as motors, generators, and transformers, to selected specialty grades such as non-subject grain- and non-grain-oriented electrical steels for the cores of electric motors, generators, and transformers.

Companies in some of these industries (particularly producers of boilers and heat exchangers; and power, distribution, and specialty transformers) purchase the steel mill products that they consume in their production operations directly from mills as well as from intermediate suppliers. Most of these industries purchase a majority of their steel from domestic sources. Industry sources indicate that for companies in these industries, steel service centers, are not typical suppliers. However, both hearing testimony and questionnaire responses indicate that firms in these industries may have purchased more from service centers recently.<sup>56</sup> The share of purchases of steel from steel service centers by heavy machinery manufacturers that responded to the purchasers questionnaire increased from 8.2 percent to 46.7 percent between 2001/02 and 2002/03.

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miscellaneous electrical equipment and components.

<sup>54</sup>Industry representatives, telephone interviews with USITC staff, May 20, 2003 and May 22, 2003.

<sup>55</sup>Caterpillar testified that its steel costs range between 10 percent to 15 percent, varying significantly with the type of product. Testimony of Dan M. Murphy, Vice President for Global Purchasing, Caterpillar, Inc., transcript of Commission hearing, June 19, 2003, p. 262. Advance Transformer indicated that steel represents 30 percent of total material costs for its electromagnetic ballasts but only 5 to 8 percent of material costs of its electronic ballasts and transformers. Testimony of Brian Dundon, President, Advance Transformer, transcript of Commission hearing, June 19, 2003, pp. 244, 261. Lincoln Electric stated that its electronic welding equipment has probably 10 to 15 percent steel content, while traditional and heavy industrial machinery such as transformer rectifiers could have between 30 to 35 percent steel costs. Testimony of John Stropki, Executive Vice President, The Lincoln Electric Company, transcript of Commission hearing, June 19, 2003, pp. 261-262. Acuity Lighting indicated that steel is a primary raw material accounting for more than 15 percent of overall product costs. Testimony of Tom Naramoore, Senior Vice President of Global Sourcing, Acuity Lighting, transcript of Commission hearing, June 19, 2003, p. 239. Delta Brands, a steel equipment manufacturer, also stated that steel inputs account for about 50 percent of the cost of its sales. Testimony of Sam Savariego, President, Delta Brands, Inc., transcript of Commission hearing, June 19, 2003, p. 263.

<sup>56</sup>For example, some firms indicated that after the implementation of the safeguard measures they increased their purchases from steel service centers because domestic mills had availability problems. Testimony of Brian Dundon, President, Advance Transformer, transcript of Commission hearing, pp. 267, 271-72 and testimony of Dan M. Murphy, Executive Vice President, Global Purchasing Division, Caterpillar Inc., transcript of Commission hearing, June 19, 2003, pp. 274-75.

Many of the companies that operate in this sector do not have the requisite purchasing clout to influence the terms of contracts from their steel suppliers, with only the top tier of multinational producers exhibiting the bargaining power necessary to exert any pressure on their suppliers. Moreover, many of the small-to-intermediate size companies in this sector have experienced competition from foreign suppliers. Cost increases associated with any increase in production costs are therefore either difficult or impossible to pass through to their customers.

Some firms in this sector secure their steel purchases through renewable annual contracts. This purchasing behavior is particularly the case with respect to power, distribution, and specialty transformers; motors and generators; and switchgear and switchboard apparatus.<sup>57</sup>

## Construction

Steel consuming industries in the construction sector include firms engaged in bridge, highway, and building construction; producers of metal buildings, architectural components, culvert pipe, and storage tanks; and rebar fabricators, among others.<sup>58</sup> The industries that compose this sector are fairly diverse. In the heavy construction industry (i.e., highway, bridge, water, and sewage projects), representatives indicated that the industry is concentrated and capital intensive.<sup>59</sup> However, according to industry sources, the architectural components industry is highly competitive and capital intensive, but not vertically integrated.<sup>60</sup> The rebar fabrication industry has become more concentrated in recent years but remains highly fragmented compared with most steel consuming industries,<sup>61</sup> with modest barriers to entry and little vertical integration.

The impact of the safeguard tariffs on the products commonly used in the construction sector varies significantly. Plate is subject to the highest safeguard tariffs while products such as pipe and reinforcing bar are subject to much lower tariff levels. Structural steel, of which the construction sector is the primary consumer, was excluded from the safeguard measures.

Industry sources report a wide range of estimated cost shares of steel for the construction industry, making it difficult to know the degree to which firms in these industries are affected by the safeguard measures (see table D-4). In the general construction industry, Nucor Corp. (Nucor), a leading steel products supplier to the construction industry, asserted that steel costs typically amount to less than 1 percent of the total construction project cost.<sup>62</sup> Likewise, CMC Steel Group (CMC), a rebar fabricator, also claimed that steel accounts for an insignificant share in the total cost of a construction project.<sup>63</sup> However, for industries in this sector that supply construction projects, steel can represent a major share of total costs. Steel reportedly accounts for 60 to 80 percent of the cost of delivered fabricated rebar.<sup>64</sup> For the storage tank industry, sources estimate that steel inputs account for approximately 25 percent of

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<sup>57</sup>Industry representatives, telephone interviews with USITC staff, May 23, 2003.

<sup>58</sup>Commission efforts to develop information on the steel purchasing patterns of construction-related producers were unsuccessful, other than for heavy construction, rebar fabricators, storage tanks, and architectural components.

<sup>59</sup>Industry representative, e-mail correspondence with USITC staff, July 10, 2003; industry representative, telephone conversation with USITC staff, July 15, 2003; and industry representatives, correspondence with USITC staff, July 2003.

<sup>60</sup>Industry representatives, telephone interviews with USITC staff, May 7-21, 2003.

<sup>61</sup>Industry representative, e-mail correspondence with USITC staff, June 27, 2003.

<sup>62</sup>Testimony of Terry Lisenby, Chief Financial Officer, Nucor Corp., transcript of Commission hearing, June 20, 2003, p. 539.

<sup>63</sup> Testimony of Tom Yarbrough, General Manager, SMI Rebar - North Carolina, CMC Steel Group, transcript of Commission hearing, June 20, 2003, p. 683.

<sup>64</sup>*Ibid.*

costs.<sup>65</sup> In the heavy construction industry, industry sources estimate that steel accounts for 0 to 20 percent of input costs.<sup>66</sup>

The widespread use of commodity-grade steel by firms in this sector, such as the architectural components and storage tank industries may limit the effect of the safeguard measures.<sup>67</sup> Although the steel products purchased by firms in the construction sector must meet industry standards for dimensions, chemical composition, and tensile strength, among other characteristics, they are predominantly of commodity grades produced by a wide range of manufacturers, including many in countries exempt from the safeguard measures.<sup>68</sup> Higher grade products are used when required in special applications. For example, rebar of high-strength low-alloy steel may be specified in areas of seismic activity that require a combination of strength, weldability, ductility, and bendability beyond the performance capabilities of normal carbon steel.<sup>69</sup> However, a low ability to substitute between different materials would tend to increase the effect of the safeguard measures.

More than 70 percent of the steel consumed by the heavy construction industry is purchased domestically, largely through spot purchases, although most or all industries in this sector use imported steel inputs to some degree. Heavy construction firms purchase primarily from steel mills and distributors.

In the rebar fabrication industry, steel is reportedly purchased primarily from domestic sources, but with a “significant” amount of imported steel.<sup>70</sup> Steel mills are the most important source of steel purchased by rebar fabricators, as most fabricators, and all large fabricators, buy directly from the steel mills or importers. Some of the smallest fabricators or those without the best credit might buy from distributors. One rebar fabricator source indicated that steel is purchased on a spot basis or on a fairly short time frame, perhaps a month or less. This fabricator also noted that the business is highly competitive and that the great majority of transactions are based on price.<sup>71</sup>

Manufacturers in the storage tank industry purchase steel primarily on a spot basis from domestic steel mills and service centers, and from foreign sources.<sup>72</sup> According to industry sources, the architectural components industry uses steel from both domestic and foreign sources. A few large architectural components firms purchase steel from mills, but most purchase from importers, distributors, and service centers and thus, are exposed to higher steel prices. Steel is purchased primarily through negotiated contracts.<sup>73</sup>

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<sup>65</sup>Industry representative, e-mail correspondence with USITC staff, July 17, 2003.

<sup>66</sup>Industry representative, e-mail correspondence with USITC staff, July 10, 2003; industry representative, telephone conversation with USITC staff, July 15, 2003; and industry representatives, correspondence with USITC staff, July 2003.

<sup>67</sup>Industry representative, e-mail correspondence with USITC staff, July 17, 2003, and industry representatives, telephone interviews with USITC staff, May 7-21, 2003.

<sup>68</sup>Some commodity-grade products may also be custom produced for a specific job (e.g., plates for bridges)

<sup>69</sup>“Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement,” ASTM A706/A706M-98, *Annual Book of ASTM Standards* (W. Conshohock, PA: American Society for Testing and Materials, 2000), vol. 01.04, sect. 1, pp. 330-334.

<sup>70</sup>Industry representative, e-mail correspondence with USITC staff, July 10, 2003; industry representative, telephone conversation with USITC staff, July 15, 2003; and industry representatives, correspondence with USITC staff, July 2003.

<sup>71</sup>*Ibid.*

<sup>72</sup>Industry representative, e-mail correspondence with USITC staff, July 17, 2003.

<sup>73</sup>Industry representatives, telephone interviews with USITC staff, May 7-21, 2003.

## Containers

Container-producing companies include producers of cans, barrels and drums, compressed-gas cylinders, and pails,<sup>74</sup> with can manufacturers accounting for about 80 percent of consumption of steel for the sector.<sup>75</sup> The steel container manufacturing sector's purchases of steel primarily consist of forms of flat-rolled steel that are subject to the highest safeguard tariff.

Steel-can manufacturing<sup>76</sup> is a concentrated and capital-intensive industry with a few large multinational food-can makers producing the great majority of cans. The entire manufacturing process for cans, from slitting the steel to packaging, is typically automated. The industry has experienced consolidation over the past 15 years as a result of the acquisition of the can manufacturing operations of many food-product manufacturers by the large multinational food-can makers.

The barrel and drum industry is highly capital intensive, highly automated, and relatively concentrated, primarily as a result of mergers and plant shutdowns, with the latter being driven principally by declining product demand. Transportation costs define the market for steel barrels and drums as the cost of shipping empty drums limits the effective market size.<sup>77</sup>

Steel represents the largest share of input costs for the industries in this sector. Industry sources estimate cost shares of steel relative to total production inputs at 60 percent to 70 percent for cans.<sup>78</sup> Industry sources estimate cost shares of steel relative to total production inputs at 50 to 70 percent for steel barrels and drums.<sup>79</sup>

Opportunities for substitution of steel from different sources are greater in the barrel drum industry than in the can industry. Barrel and drum makers primarily purchase commodity grade mill products, while can manufacturers account for the majority of the consumption of tin mill products, which are more specialized products, purchasing 82 percent of domestic shipments in 2002 (table D-1).

Can makers are dominated by a few large firms, which aggressively negotiate annual contracts with tin mill product suppliers; steel intermediaries play a minor role. Firms in this industry have traditionally had bargaining power with tin mill product suppliers. However, recent consolidation in the domestic tin mill products industry and the application of antidumping duties on tin mill products from Japan may have affected relative bargaining power in this market. Steel purchases are generally on an annual or multi-year contract basis. Because the cost of steel is such a large component of overall production costs, can manufacturers typically lock in the lowest steel prices through negotiated contracts.

Although most purchases by barrel and drum makers are made directly from domestic steel mills, some parts of this industry purchase through service centers and importers. The purchase arrangements vary among companies, with some firms having annual contacts with their steel suppliers, whereas others

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<sup>74</sup>Commission efforts to develop information on the steel purchasing patterns of the compressed-gas cylinder and steel pail manufacturers were unsuccessful.

<sup>75</sup>Compiled from 2000 statistics of the AISI.

<sup>76</sup>In the canning products manufacturing industry, there are three product segments: food, beverage, and general (such as paint and aerosols). Steel-can manufacturers dominate the food and general product categories, with the great majority of steel-can production being of food cans. In contrast, virtually all beverage cans are made from aluminum.

<sup>77</sup>In some instances, when the unit cost of domestic steel drums becomes excessive, some customers will shift their purchases to less-expensive, overseas suppliers and bulk ship the fill product to those points for filling. This results in the loss of both the domestic container production and filling activity.

<sup>78</sup>Industry representatives, telephone interviews with USITC staff, May 16, 20, and 21, 2003.

<sup>79</sup>*Ibid.*

work on the basis of monthly or quarterly agreements. The larger manufacturers rely considerably on renewable supply contacts; spot market purchases are relatively infrequent. There are very few corporate or contractual relationships between domestic steel container manufacturers and upstream suppliers or downstream customers.<sup>80</sup>

## **Consumer and Commercial Goods**

Steel consuming industries in the consumer and commercial goods sector include producers of major household appliances;<sup>81</sup> metal furniture, stands, and shelving; builders hardware; cutlery, kitchen ware, and sanitary ware; and non-powered hand tools. These industries are characterized by a few major multinational producers (particularly of major household appliances and non-powered hand tools), although numerous other firms also exist that either manufacture niche products or serve as component suppliers to the dominant firms. Although there has been a degree of consolidation in these industries, each industry also has a number of niche producers and suppliers of components or subassemblies to the larger, multinational participants. Individual companies in these industries are not sufficiently dominant to exert price pressure on steel suppliers. However, some companies can seek relief from higher steel prices by turning to foreign subsidiaries.

For example, each of three leading North American producers of major household appliances has manufacturing operations in both the United States and Mexico and can shift production from one country to another depending on cost and capacity considerations. Six of nine appliance producers reported decreased purchases of domestic steel following the imposition of the safeguard measures, but none reported increased purchases of imported steel (table 2-2). Rather than importing steel, the companies are importing finished appliances, chiefly from Mexico. Most appliance producers reported difficulty in obtaining steel following the imposition of the safeguard measures, in terms of the quantity available and/or the prices charged (table 2-24).

Manufacturing processes for many sector industries are highly automated, often utilizing numerically controlled computerized machining. In the sector's capital-intensive industries (such as major household appliances and mechanics hand tools), the leading firms are vertically integrated and these industries have experienced extensive consolidation in recent years. The hardware manufacturing industry reportedly has been affected more by consolidation in all aspects, including manufacturing, distribution, and retailing, than perhaps any other steel consuming industry, but it is not as highly capital intensive as some other sector industries.<sup>82</sup>

The share of steel input costs varies for these industries and for a number of products steel does not constitute a significant share of total costs. Publicly available data across broad consumer and commercial goods industries indicate that the share of total costs is less than 15 percent. The Air-Conditioning and Refrigeration Institute reported a range of 10 to 70 percent steel volume used per type of product, and the

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<sup>80</sup>Industry representatives, e-mail correspondence with USITC staff, May 22, 2003.

<sup>81</sup>The household appliance industry is segmented by differences in industry and market structures between major household appliances (e.g., refrigerators, ranges, washers, dryers, etc.) and portable (counter top) appliances. Major household appliances accounted for the bulk (87 percent, or \$32.5 billion) of all appliance sales (\$37.3 billion) in the United States during 2002. Compiled from official statistics of the U.S. Department of Commerce, BEA.

<sup>82</sup>William Ferrell, President and Chief Executive Officer, American Hardware Manufacturers Association, e-mail correspondence with USITC staff, May 21, 2003. Commission efforts to develop further information about purchasing patterns for this industry were unsuccessful.

Association of Home Appliance Manufacturers reported 27 to 84 percent steel volume.<sup>83</sup> Ki, Inc. testified that steel represents an estimated 10 percent of its material purchases and another 5 percent in fabricated-steel-type components, but may account for a higher portion of total costs for companies specializing in metal furniture.<sup>84</sup>

The ability of firms in these industries to substitute grades of steel subject to lower or no tariffs varies by industry. Steel products purchased by these industries are of various grades, with commodity grades for most products, but also some specialty grades for certain cutlery and certain components of non-powered hand tools. For most products in this sector, use of alternative materials to steel is not an option.

Although the majority of production in each of these industries is concentrated in a few large firms, the ability to pass on steel price increases to customers is limited because of the market power of large customers (such as large mass merchandisers with global purchasing strategies) that purchase based on price and the existence of extensive foreign competition. Because of this, major producers in each of these industries have sought price decreases from steel suppliers have also purchased from foreign-produced companies steel components or wholly fashioned products already incorporating the steel components.

The ability of firms in these industries to limit their exposure to the safeguard measures by negotiating long-term contracts and dealing directly with domestic steel mills also varies by industry. Firms in this sector procure steel from both U.S. and foreign sources. Most types of steels used in the major household appliance industry are procured domestically from service centers that assist producers in meeting just-in-time inventory requirements set by retail companies. Most major producers are inclined to maintain a limited number of contractual relationships with upstream or downstream firms, and instead rely on long-term contracts with a few key steel service centers.<sup>85</sup>

U.S. producers in other industries in this sector use a variety of methods for acquiring their steel inputs. Most U.S. manufacturers of cutlery, which often also import finished cutlery products under their brand names, buy both domestic and imported steel from U.S. steel distributors under short-term contracts.<sup>86</sup> Large firms in the non-powered hand-tool industry normally purchase from steel mills under annual contracts whereas smaller firms normally purchase from service centers on a spot basis. The majority of these purchases are of domestic steel, although some firms purchase forgings or stampings from abroad, and perform finishing and assembly in the United States.<sup>87</sup>

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<sup>83</sup>Post-hearing briefs of Stephen R. Yurek, General Counsel and Julie McCombs, Director of International Trade, ARI, p. 5 and David B. Calabrese, Vice President, Government Relations, AHAM, p.2.

<sup>84</sup>Ki, Inc. manufactures furniture that generally is used in the education system, government, and healthcare markets. Testimony of Gary Van Handel, Director, Supply Chain Management, Ki, Inc., transcript of Commission hearing, pp. 738-9.

<sup>85</sup>Industry representatives, telephone interview with USITC staff, May 9, 2003.

<sup>86</sup>Industry representatives, telephone interviews with USITC staff, May 12, 2003.

<sup>87</sup>Compiled by the USITC from industry publications; and USITC, "Hand Tools," *Country of Origin Marking: Review of Laws, Regulations, and Practices*, Investigation No. 332-366, USITC Publication No. 2975, July 1996, pp. 6-24 to 6-31.



**APPENDIX E**  
**FINANCIAL TABLES**

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**Table E-1**  
**Number of steel-consuming firms responding to changes due to safeguard measures, by type of response**

Response	Net Sales	Operating Income	Capital Expenditures	Subject input	Subject input
				products from U.S. producers	products from imports
-----Number of firms reporting-----					
<b>Decrease</b>					
Quantified .....	12	16	5	7	9
Did not quantify .....	3	3	1	1	2
<b>Increase</b>					
Quantified .....	8	7	2	29	11
Did not quantify .....	3	1	1	13	4
No change .....	29	29	31	23	16
Did not know change .....	6	4	6	4	4
Other response .....	15 <sup>1</sup>	14 <sup>2</sup>	12 <sup>3</sup>	16 <sup>5</sup>	10 <sup>7</sup>
No response .....	95	97	113 <sup>4</sup>	78 <sup>6</sup>	46 <sup>8</sup>
<b>Total .....</b>	<b>171</b>	<b>171</b>	<b>171</b>	<b>171</b>	<b>171</b>

<sup>1</sup> The respondents reported the following information: four indicated they could not quantify the data, seven indicated not available, one indicated undetermined, one indicated very poor business conditions, one indicated a minimal effect and one indicated that there were fewer new jobs and they were less competitive globally.

<sup>2</sup> The respondents reported the following information: seven firms indicated not available, one indicated undetermined, one indicated a minimal effect, four indicated that they could not quantify the data and one indicated that it would have been worse without remedy.

<sup>3</sup> The respondents reported the following information: seven indicated not available, four indicated they could not quantify the data and one indicated undetermined.

<sup>4</sup> Twenty-seven firms had reported no capital expenditures.

<sup>5</sup> The respondents reported the following information: seven indicated not available, four indicated that they could not quantify the data, one indicated increased cost per ton, one indicated base material cost increase by thirty percent, one indicated an increase of thirty-one percent, one indicated undetermined and one indicated a minimal effect.

<sup>6</sup> Three firms had reported no U.S. input products.

<sup>7</sup> The respondents reported the following information: Four indicated that they could not quantify the data, four indicated not available, one indicated increased volume and one indicated undetermined.

<sup>8</sup> Seventy firms had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-2

**Results of operations of U.S. steel distributor and/or service centers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>**

Item	Change					
	2000/01	2001/02	2002/03	2000/01 to 2002/03	2000/01 to 2001/02	2001/01 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	1,546,253	1,222,919	1,190,623	-23.0	-20.9	-2.6
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . .	948,167	804,044	811,162	-14.4	-15.2	0.9
From imports . . . . .	301,075	146,850	141,569	-53.0	-51.2	-3.6
Other raw materials . . .	14,749	9,604	9,829	-33.4	-34.9	2.3
Total raw materials . .	1,263,992	960,498	962,560	-23.8	-24.0	0.2
Direct labor . . . . .	56,106	48,183	46,589	-17.0	-14.1	-3.3
Other factory costs . . . . .	52,545	60,204	52,015	-1.0	14.6	-13.6
Total cost of goods sold . . . . .	1,372,643	1,068,885	1,061,164	-22.7	-22.1	-0.7
Gross profit or (loss) . . . . .	173,610	154,034	129,460	-25.4	-11.3	-16.0
SG&A expenses . . . . .	138,298	130,449	114,359	-17.3	-5.7	-12.3
Operating income or (loss) . . . . .	35,311	23,585	15,101	-57.2	-33.2	-36.0
Capital expenditures . . . . .	20,241	17,287	7,650	-62.2	-14.6	-55.7
	<b>----Ratio to net sales (percent)----</b>					
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . .	61.3	65.7	68.1	6.8	4.4	2.4
From imports . . . . .	19.5	12.0	11.9	-7.6	-7.5	-0.1
Other raw materials . . .	1.0	0.8	0.8	-0.1	-0.2	0.0
Total raw materials . .	81.7	78.5	80.8	-0.9	-3.2	2.3
Direct labor . . . . .	3.6	3.9	3.9	0.3	0.3	0.0
Other factory costs . . . . .	3.4	4.9	4.4	1.0	1.5	-0.6
Total cost of goods sold	88.8	87.4	89.1	0.4	-1.4	1.7
Gross profit or (loss) . . . . .	11.2	12.6	10.9	-0.4	1.4	-1.7
SG&A expenses . . . . .	8.9	10.7	9.6	0.7	1.7	-1.1
Operating income or (loss)	2.3	1.9	1.3	-1.0	-0.4	-0.7
	<b>----Number of firms reporting----</b>					
Operating losses . . . . .	2	5	5			
Data for operations . . . . .	19	19	19			
Data for capital expenditures . . . . .	15	15	14			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-3**

**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. steel distributor and/or service centers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
-----Number of firms reporting-----					
<b>Decrease</b>					
Quantified .....	0	1	0	0	1
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	0	0	0	1	0
Did not quantify .....	0	0	0	1	0
No change .....	1	1	1	0	1
Did not know change .....	1	1	1	1	1
Other response .....	<sup>1</sup> 7	<sup>2</sup> 6	<sup>3</sup> 6	<sup>5</sup> 7	<sup>7</sup> 5
No response .....	10	10	<sup>4</sup> 11	<sup>6</sup> 9	<sup>8</sup> 11
<b>Total</b> .....	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>

<sup>1</sup> One firm indicated very poor business conditions, another firm indicated undetermined and five firms indicated NA.

<sup>2</sup> One firm indicated undetermined and five firms indicated not available.

<sup>3</sup> One firm indicated undetermined and five firms indicated not available.

<sup>4</sup> Three firms had reported no capital expenditures.

<sup>5</sup> One firm indicated 31 percent, another firm indicated undetermined, and five firms indicated not available.

<sup>6</sup> One firm had reported no U.S. input products.

<sup>7</sup> Four firms indicated not available and one firm indicated undetermined.

<sup>8</sup> Three firms had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-4

**Results of operations of U.S. steel hot/cold rolled or coated producers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>**

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	2,376,111	1,828,433	2,415,841	1.7	-23.0	32.1
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . .	1,011,058	888,243	1,059,973	4.8	-12.1	19.3
From imports . . . . .	574,035	284,453	556,333	-3.1	-50.4	95.6
Other raw materials . . .	109,207	93,298	80,090	-26.7	-14.6	-14.2
Total raw materials . .	1,694,300	1,265,994	1,696,396	0.1	-25.3	34.0
Direct labor . . . . .	176,398	183,493	200,228	13.5	4.0	9.1
Other factory costs . . . . .	289,033	277,589	287,268	-0.6	-4.0	3.5
Total cost of goods sold	2,159,731	1,727,076	2,183,892	1.1	-20.0	26.5
Gross profit or (loss) . . . . .	216,380	101,357	231,949	7.2	-53.2	128.8
SG&A expenses . . . . .	163,230	149,152	156,336	-4.2	-8.6	4.8
Operating income or (loss)	53,150	(47,795)	75,613	42.3	-189.9	258.2
Capital expenditures . . . . .	44,507	132,191	34,731	-22.0	197.0	-73.7
	----Ratio to net sales (percent)----					
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . .	42.6	48.6	43.9	1.3	6.0	-4.7
From imports . . . . .	24.2	15.6	23.0	-1.1	-8.6	7.5
Other raw materials . . .	4.6	5.1	3.3	-1.3	0.5	-1.8
Total raw materials . .	71.3	69.2	70.2	-1.1	-2.1	1.0
Direct labor . . . . .	7.4	10.0	8.3	0.9	2.6	-1.7
Other factory costs . . . . .	12.2	15.2	11.9	-0.3	3.0	-3.3
Total cost of goods sold	90.9	94.5	90.4	-0.5	3.6	-4.1
Gross profit or (loss) . . . . .	9.1	5.5	9.6	0.5	-3.6	4.1
SG&A expenses . . . . .	6.9	8.2	6.5	-0.4	1.3	-1.7
Operating income or (loss)	2.2	(2.6)	3.1	0.9	-4.9	5.7
	----Number of firms reporting----					
Operating losses . . . . .	6	7	4			
Data for operations . . . . .	12	12	12			
Data for capital expenditures . . . . .	12	12	12			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-5**  
**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. cold rollers, by type of response**

Response	Net Sales	Operating Income	Capital Expenditures	Subject input	Subject input
				products from U.S. producers	products from imports
-----Number of firms reporting-----					
<b>Decrease</b>					
Quantified .....	1	1	0	0	0
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	2	1	0	2	2
Did not quantify .....	0	0	0	0	0
No change .....	3	4	5	4	4
Did not know change ....	1	1	1	1	1
Other response .....	<sup>1</sup> 2	<sup>2</sup> 2	<sup>3</sup> 2	<sup>4</sup> 2	<sup>5</sup> 2
No response .....	3	3	4	3	<sup>6</sup> 3
<b>Total .....</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>

<sup>1</sup> Two respondents indicated that they could not quantify.

<sup>2</sup> Two respondents indicated that they could not quantify.

<sup>3</sup> Two respondents indicated that they could not quantify.

<sup>4</sup> Two respondents indicated that they could not quantify.

<sup>5</sup> Two respondents indicated that they could not quantify.

<sup>6</sup> One respondent had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-6

Results of operations of U.S. welded pipe producers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	2,817,352	2,436,415	2,635,155	-0.1	-13.5	8.2
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . .	1,134,310	959,462	1,031,017	-9.1	-15.4	7.5
From imports . . . . .	278,576	184,460	283,778	1.9	-33.8	53.8
Other raw materials . . .	55,989	83,793	77,961	39.2	49.7	-7.0
Total raw materials . .	1,468,875	1,227,715	1,392,756	-5.2	-16.4	13.4
Direct labor . . . . .	295,946	285,834	300,750	1.6	-3.4	5.2
Other factory costs . . . . .	709,609	717,325	728,049	2.6	1.1	1.5
Total cost of goods sold	2,474,430	2,230,874	2,421,555	-2.1	-9.8	8.5
Gross profit or (loss) . . . . .	342,922	205,541	213,600	-37.7	-40.1	3.9
SG&A expenses . . . . .	183,924	185,274	180,207	-2.0	0.7	-2.7
Operating income or (loss)	158,998	20,267	33,393	-79.0	-87.3	64.8
Capital expenditures . . . . .	98,496	62,007	76,860	-22.0	-37.0	24.0
	----Ratio to net sales (percent)----					
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . .	40.3	39.4	39.1	-1.1	-0.9	-0.3
From imports . . . . .	9.9	7.6	10.8	0.9	-2.3	3.2
Other raw materials . . .	2.0	3.4	3.0	1.0	1.5	-0.5
Total raw materials . .	52.1	50.4	52.9	0.7	-1.7	2.5
Direct labor . . . . .	10.5	11.7	11.4	0.9	1.2	-0.3
Other factory costs . . . . .	25.2	29.4	27.6	2.4	4.3	-1.8
Total cost of goods sold	87.8	91.6	91.9	4.1	3.7	0.3
Gross profit or (loss) . . . . .	12.2	8.4	8.1	-4.1	-3.7	-0.3
SG&A expenses . . . . .	6.5	7.6	6.8	0.3	1.1	-0.8
Operating income or (loss)	5.6	0.8	1.3	-4.4	-4.8	0.4
	----Number of firms reporting----					
Operating losses . . . . .	3	3	4			
Data for operations . . . . .	16	16	16			
Data for capital expenditures . . . . .	13	13	13			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-7**

**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. welded pipe producers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	-----Number of firms reporting-----				
<b>Decrease</b>					
Quantified .....	1	2	1	1	2
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	2	1	1	3	0
Did not quantify .....	0	0	0	1	0
No change .....	2	2	3	1	3
Did not know change ....	1	1	1	0	1
Other response .....	<sup>1</sup> 1	<sup>2</sup> 1	<sup>3</sup> 1	<sup>5</sup> 2	<sup>6</sup> 2
No response .....	9	9	<sup>4</sup> 9	8	<sup>7</sup> 8
<b>Total</b> .....	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>

<sup>1</sup> One firm indicated that it can not quantify.

<sup>2</sup> One firm indicated that it can not quantify.

<sup>3</sup> One firm indicated that it can not quantify.

<sup>4</sup> Two firms had reported capital expenditures.

<sup>5</sup> One firm indicated that it can not quantify and one firm indicated that it increased cost per ton.

<sup>6</sup> One firm indicated that it can not quantify and one firm indicated that it increased volume.

<sup>7</sup> Four firms had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-8

Results of operations of U.S. bar and wire finishers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	326,637	264,310	272,005	-16.7	-19.1	2.9
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	117,395	83,564	94,881	-19.2	-28.8	13.5
From imports . . . . .	85,667	82,876	80,422	-6.1	-3.3	-3.0
Other raw materials . . .	2,813	3,752	1,315	-53.3	33.4	-65.0
Total raw materials . . .	205,875	170,192	176,618	-14.2	-17.3	3.8
Direct labor . . . . .	20,849	18,804	18,461	-11.5	-9.8	-1.8
Other factory costs . . . . .	54,983	55,255	50,129	-8.8	0.5	-9.3
Total cost of goods sold	281,708	244,252	245,209	-13.0	-13.3	0.4
Gross profit or (loss) . . . . .	44,929	20,058	26,797	-40.4	-55.4	33.6
SG&A expenses . . . . .	32,224	27,815	26,359	-18.2	-13.7	-5.2
Operating income or (loss)	12,705	(7,757)	438	-96.6	-161.1	105.6
Capital expenditures . . . . .	12,630	23,768	10,400	-17.7	88.2	-56.2
	----Ratio to net sales (percent)----					
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . . .	35.9	31.6	34.9	-1.1	-4.3	3.3
From imports . . . . .	26.2	31.4	29.6	3.3	5.1	-1.8
Other raw materials . . .	0.9	1.4	0.5	-0.4	0.6	-0.9
Total raw materials . . .	63.0	64.4	64.9	1.9	1.4	0.5
Direct labor . . . . .	6.4	7.1	6.8	0.4	0.7	-0.3
Other factory costs . . . . .	16.8	20.9	18.4	1.6	4.1	-2.5
Total cost of goods sold	86.2	92.4	90.1	3.9	6.2	-2.3
Gross profit or (loss) . . . . .	13.8	7.6	9.9	-3.9	-6.2	2.3
SG&A expenses . . . . .	9.9	10.5	9.7	-0.2	0.7	-0.8
Operating income or (loss)	3.9	(2.9)	0.2	-3.7	-6.8	3.1
	----Number of firms reporting----					
Operating losses . . . . .	1	5	6			
Data for operations . . . . .	14	14	14			
Data for capital expenditures . . . . .	9	9	9			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-9**

**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. bar and wire finishers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	-----Number of firms reporting-----				
<b>Decrease</b>					
Quantified .....	1	0	0	0	1
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	1	0	0	2	0
Did not quantify .....	0	0	0	1	0
No change .....	2	3	1	1	3
Did not know change .....	0	0	0	0	0
Other response .....	<sup>1</sup> 1	<sup>2</sup> 1	<sup>3</sup> 1	<sup>5</sup> 1	0
No response .....	9	10	<sup>4</sup> 2	<sup>6</sup> 9	<sup>7</sup> 10
<b>Total</b> .....	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>14</b>

<sup>1</sup> One firm indicated not available.

<sup>2</sup> One firm indicated not available.

<sup>3</sup> One firm indicated not available.

<sup>4</sup> Four firms had reported no capital expenditures.

<sup>5</sup> One firm indicated not available.

<sup>6</sup> One firm reported no U.S. input products.

<sup>7</sup> Two firms reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-10**  
**Results of operations of U.S. fastener producers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>**

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	354,809	321,683	347,052	-2.2	-9.3	7.9
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . .	63,132	59,357	77,809	23.2	-6.0	31.1
From imports . . . . .	29,324	23,148	17,066	-41.8	-21.1	-26.3
Other raw materials . . .	4,463	4,496	4,881	9.4	0.8	8.5
Total raw materials . .	96,919	87,001	99,756	2.9	-10.2	14.7
Direct labor . . . . .	51,189	44,894	50,552	-1.2	-12.3	12.6
Other factory costs . . . . .	125,964	112,464	114,066	-9.4	-10.7	1.4
Total cost of goods sold	274,072	244,359	264,373	-3.5	-10.8	8.2
Gross profit or (loss) . . . . .	80,738	77,323	82,679	2.4	-4.2	6.9
SG&A expenses . . . . .	49,761	49,867	53,414	7.3	0.2	7.1
Operating income or (loss)	30,976	27,456	29,265	-5.5	-11.4	6.6
Capital expenditures . . . . .	4,417	2,314	10,902	146.8	-47.6	371.2
	----Ratio to net sales (percent)----					
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . .	17.8	18.5	22.4	4.6	0.7	4.0
From imports . . . . .	8.3	7.2	4.9	-3.3	-1.1	-2.3
Other raw materials . . .	1.3	1.4	1.4	0.1	0.1	0.0
Total raw materials . .	27.3	27.0	28.7	1.4	-0.3	1.7
Direct labor . . . . .	14.4	14.0	14.6	0.1	-0.5	0.6
Other factory costs . . . . .	35.5	35.0	32.9	-2.6	-0.5	-2.1
Total cost of goods sold	77.2	76.0	76.2	-1.1	-1.3	0.2
Gross profit or (loss) . . . . .	22.8	24.0	23.8	1.1	1.3	-0.2
SG&A expenses . . . . .	14.0	15.5	15.4	1.4	1.5	-0.1
Operating income or (loss)	8.7	8.5	8.4	-0.3	-0.2	-0.1
	----Number of firms reporting----					
Operating losses . . . . .	2	1	1			
Data for operations . . . . .	9	9	9			
Data for capital expenditures . . . . .	6	7	7			

<sup>1</sup> April 1-March 30.

<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-11**

**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. fastener producers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	-----Number of firms reporting-----				
<b>Decrease</b>					
Quantified .....	0	1	0	0	1
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	0	0	0	3	0
Did not quantify .....	0	0	0	0	1
No change .....	4	4	4	4	1
Did not know change .....	0	0	0	0	0
Other response .....	0	0	0	0	0
No response .....	5	4	5	2	16
<b>Total</b> .....	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>

<sup>1</sup> Four respondents had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-12

**Results of operations of U.S. steel fabricators, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>**

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	1,156,659	1,034,088	1,047,553	-9.4	-10.6	1.3
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	359,677	326,823	335,571	-6.7	-9.1	2.7
From imports . . . . .	21,523	21,819	26,990	25.4	1.4	23.7
Other raw materials . . .	46,592	39,885	40,429	-13.2	-14.4	1.4
Total raw materials . . .	427,792	388,527	402,990	-5.8	-9.2	3.7
Direct labor . . . . .	120,962	111,704	112,675	-6.9	-7.7	0.9
Other factory costs . . . . .	382,906	342,182	341,886	-10.7	-10.6	-0.1
Total cost of goods sold	931,660	842,413	857,551	-8.0	-9.6	1.8
Gross profit or (loss) . . . . .	224,999	191,675	190,002	-15.6	-14.8	-0.9
SG&A expenses . . . . .	148,426	139,912	137,878	-7.1	-5.7	-1.5
Operating income or (loss)	76,573	51,763	52,124	-31.9	-32.4	0.7
Capital expenditures . . . . .	35,122	37,810	17,889	-49.1	7.7	-52.7
	----Ratio to net sales (percent)----					
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	31.1	31.6	32.0	0.9	0.5	0.4
From imports . . . . .	1.9	2.1	2.6	0.7	0.2	0.5
Other raw materials . . .	4.0	3.9	3.9	-0.2	-0.2	0.0
Total raw materials . . .	37.0	37.6	38.5	1.5	0.6	0.9
Direct labor . . . . .	10.5	10.8	10.8	0.3	0.3	0.0
Other factory costs . . . . .	33.1	33.1	32.6	-0.5	0.0	-0.5
Total cost of goods sold	80.5	81.5	81.9	1.3	0.9	0.4
Gross profit or (loss) . . . . .	19.5	18.5	18.1	-1.3	-0.9	-0.4
SG&A expenses . . . . .	12.8	13.5	13.2	0.3	0.7	-0.4
Operating income or (loss)	6.6	5.0	5.0	-1.6	-1.6	0.0
	----Number of firms reporting----					
Operating losses . . . . .	4	6	8			
Data for operations . . . . .	36	36	36			
Data for capital expenditures . . . . .	28	28	26			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-13**  
**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. steel fabricators, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	----- <i>Number of firms reporting</i> -----				
<b>Decrease</b>					
Quantified .....	4	6	1	3	1
Did not quantify .....	2	1	0	0	0
<b>Increase</b>					
Quantified .....	1	2	1	6	5
Did not quantify .....	1	0	0	5	2
No change .....	2	2	3	2	0
Did not know change .....	1	1	1	1	1
Other response .....	<sup>1</sup> 1	0	0	0	0
No response .....	24	24	<sup>2</sup> 30	19	<sup>3</sup> 27
<b>Total .....</b>	<b>36</b>	<b>36</b>	<b>36</b>	<b>36</b>	<b>36</b>

<sup>1</sup> One respondent indicated that there were fewer new jobs and that they were less competitive globally.

<sup>2</sup> Nine firms reported no capital expenditures.

<sup>3</sup> Nineteen firms had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-14

Results of operations of U.S. motor vehicles parts producers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>

Item				Change		
	2000/01	2001/02	2002/03	2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	2,246,215	2,140,179	2,232,372	-0.6	-4.7	4.3
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	661,046	687,268	732,089	10.7	4.0	6.5
From imports . . . . .	14,947	13,382	14,205	-5.0	-10.5	6.2
Other raw materials . . .	199,717	190,838	188,923	-5.4	-4.4	-1.0
Total raw materials . . .	875,710	891,488	935,217	6.8	1.8	4.9
Direct labor . . . . .	198,137	194,198	207,430	4.7	-2.0	6.8
Other factory costs . . . . .	876,383	773,294	790,916	-9.8	-11.8	2.3
Total cost of goods sold	1,950,230	1,858,980	1,933,563	-0.9	-4.7	4.0
Gross profit or (loss) . . . . .	295,985	281,199	298,809	1.0	-5.0	6.3
SG&A expenses . . . . .	150,032	141,823	125,277	-16.5	-5.5	-11.7
Operating income or (loss)	145,953	139,376	173,532	18.9	-4.5	24.5
Capital expenditures . . . . .	137,921	100,895	80,595	-41.6	-26.8	-20.1
	-----Ratio to net sales (percent)-----					
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	29.4	32.1	32.8	3.4	2.7	0.7
From imports . . . . .	0.7	0.6	0.6	0.0	0.0	0.0
Other raw materials . . .	8.9	8.9	8.5	-0.4	0.0	-0.5
Total raw materials . . .	39.0	41.7	41.9	2.9	2.7	0.2
Direct labor . . . . .	8.8	9.1	9.3	0.5	0.3	0.2
Other factory costs . . . . .	39.0	36.1	35.4	-3.6	-2.9	-0.7
Total cost of goods sold	86.8	86.9	86.6	-0.2	0.0	-0.2
Gross profit or (loss) . . . . .	13.2	13.1	13.4	0.2	0.0	0.2
SG&A expenses . . . . .	6.7	6.6	5.6	-1.1	-0.1	-1.0
Operating income or (loss)	6.5	6.5	7.8	1.3	0.0	1.3
	-----Number of firms reporting-----					
Operating losses . . . . .	3	2	3			
Data for operations . . . . .	19	19	19			
Data for capital expenditures . . . . .	16	16	16			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-15**

**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. motor vehicles parts producers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	-----Number of firms reporting-----				
<b>Decrease</b>					
Quantified .....	3	1	0	0	1
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	0	1	0	4	1
Did not quantify .....	0	0	0	1	0
No change .....	3	3	3	3	1
Did not know change ....	0	0	0	0	0
Other response .....	0	0	0	<sup>2</sup> 1	0
No response .....	13	14	<sup>1</sup> 16	10	<sup>3</sup> 16
<b>Total</b> .....	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>

<sup>1</sup> Three firms had reported no capital expenditures.

<sup>2</sup> One firm indicated base material cost increased by 30 percent.

<sup>3</sup> Eleven firms reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-16

Results of operations of U.S. heavy machinery producers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	1,088,166	739,984	731,088	-32.8	-32.0	-1.2
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	78,585	59,932	59,564	-24.2	-23.7	-0.6
From imports . . . . .	4,499	3,296	3,490	-22.4	-26.7	5.9
Other raw materials . . .	581,821	474,785	400,074	-31.2	-18.4	-15.7
Total raw materials . . .	664,905	538,013	463,128	-30.3	-19.1	-13.9
Direct labor . . . . .	36,183	23,360	22,950	-36.6	-35.4	-1.8
Other factory costs . . . . .	256,296	119,325	176,997	-30.9	-53.4	48.3
Total cost of goods sold	957,384	680,698	663,075	-30.7	-28.9	-2.6
Gross profit or (loss) . . . . .	130,782	59,286	68,013	-48.0	-54.7	14.7
SG&A expenses . . . . .	75,235	57,585	56,874	-24.4	-23.5	-1.2
Operating income or (loss)	55,547	1,701	11,139	-79.9	-96.9	554.9
Capital expenditures . . . . .	15,947	9,591	5,628	-64.7	-39.9	-41.3
	----Ratio to net sales (percent)----					
Cost of goods sold:						
Raw materials:						
Subject input products:						
From U.S. producers . . .	7.2	8.1	8.1	0.9	0.9	0.0
From imports . . . . .	0.4	0.4	0.5	0.1	0.0	0.0
Other raw materials . . .	53.5	64.2	54.7	1.3	10.7	-9.4
Total raw materials . . .	61.1	72.7	63.3	2.2	11.6	-9.4
Direct labor . . . . .	3.3	3.2	3.1	-0.2	-0.2	0.0
Other factory costs . . . . .	23.6	16.1	24.2	0.7	-7.4	8.1
Total cost of goods sold	88.0	92.0	90.7	2.7	4.0	-1.3
Gross profit or (loss) . . . . .	12.0	8.0	9.3	-2.7	-4.0	1.3
SG&A expenses . . . . .	6.9	7.8	7.8	0.9	0.9	0.0
Operating income or (loss)	5.1	0.2	1.5	-3.6	-4.9	1.3
	----Number of firms reporting----					
Operating losses . . . . .	1	3	1			
Data for operations . . . . .	4	4	4			
Data for capital expenditures . . . . .	4	4	4			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-17**

**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. heavy machinery producers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
-----Number of firms reporting-----					
<b>Decrease</b>					
Quantified .....	0	0	0	1	1
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	0	0	0	1	1
Did not quantify .....	0	0	0	0	0
No change .....	3	3	3	1	0
Did not know change .....	0	0	0	0	0
Other response .....	0	0	0	0	0
No response .....	1	1	1	1	1 <sup>2</sup>
<b>Total</b> .....	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>

<sup>1</sup> One firm had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-18

Results of operations of U.S. power, other machiney producers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	2,382,194	2,220,557	2,368,243	-0.6	-6.8	6.7
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . .	154,793	132,302	148,277	-4.2	-14.5	12.1
From imports . . . . .	16,171	14,891	6,655	-58.8	-7.9	-55.3
Other raw materials . . .	967,991	868,835	922,141	-4.7	-10.2	6.1
Total raw materials . .	1,138,955	1,016,028	1,077,073	-5.4	-10.8	6.0
Direct labor . . . . .	220,452	210,207	218,361	-0.9	-4.6	3.9
Other factory costs . . . . .	470,077	479,559	515,199	9.6	2.0	7.4
Total cost of goods sold	1,829,484	1,705,794	1,810,633	-1.0	-6.8	6.1
Gross profit or (loss) . . . . .	552,710	514,763	557,610	0.9	-6.9	8.3
SG&A expenses . . . . .	392,566	386,501	381,185	-2.9	-1.5	-1.4
Operating income or (loss)	160,144	128,262	176,425	10.2	-19.9	37.6
Capital expenditures . . . . .	110,086	63,310	61,715	-43.9	-42.5	-2.5
	---Ratio to net sales (percent)---					
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . .	6.5	6.0	6.3	-0.2	-0.5	0.3
From imports . . . . .	0.7	0.7	0.3	-0.4	0.0	-0.4
Other raw materials . . .	40.6	39.1	38.9	-1.7	-1.5	-0.2
Total raw materials . .	47.8	45.8	45.5	-2.3	-2.1	-0.3
Direct labor . . . . .	9.3	9.5	9.2	0.0	0.2	-0.2
Other factory costs . . . . .	19.7	21.6	21.8	2.0	1.9	0.2
Total cost of goods sold	76.8	76.8	76.5	-0.3	0.0	-0.4
Gross profit or (loss) . . . . .	23.2	23.2	23.5	0.3	0.0	0.4
SG&A expenses . . . . .	16.5	17.4	16.1	-0.4	0.9	-1.3
Operating income or (loss)	6.7	5.8	7.5	0.7	-0.9	1.7
	----Number of firms reporting----					
Operating losses . . . . .	1	0	0			
Data for operations . . . . .	8	8	8			
Data for capital expenditures . . . . .	6	6	6			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-19**  
**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. power, other machinery producers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	-----Number of firms reporting-----				
<b>Decrease</b>					
Quantified .....	0	0	0	0	0
Did not quantify .....	0	0	0	0	1
<b>Increase</b>					
Quantified .....	0	0	0	1	0
Did not quantify .....	1	1	1	1	0
No change .....	0	0	0	0	0
Did not know change ....	0	0	0	0	0
Other response .....	<sup>1</sup> 1	<sup>2</sup> 1	0	<sup>4</sup> 1	0
No response .....	6	6	<sup>3</sup> 7	5	<sup>5</sup> 7
<b>Total .....</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>8</b>

<sup>1</sup> One respondent indicated a minimal effect.

<sup>2</sup> One respondent indicated a minimal effect.

<sup>3</sup> Two firms had reported no capital expenditures.

<sup>4</sup> One respondent indicated a minimal effect.

<sup>5</sup> Five firms had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-20

Results of operations of U.S. construction companies, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	1,466,920	1,144,501	1,053,705	-28.2	-22.0	-7.9
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	665,546	572,682	520,295	-21.8	-14.0	-9.1
From imports . . . . .	27,276	18,446	9,737	-64.3	-32.4	-47.2
Other raw materials . . .	89,672	70,522	46,579	-48.1	-21.4	-34.0
Total raw materials . . .	782,494	661,650	576,611	-26.3	-15.4	-12.9
Direct labor . . . . .	143,221	127,471	121,751	-15.0	-11.0	-4.5
Other factory costs . . . . .	174,874	160,740	145,311	-16.9	-8.1	-9.6
Total cost of goods sold	1,100,589	949,861	843,673	-23.3	-13.7	-11.2
Gross profit or (loss) . . . . .	366,331	194,640	210,032	-42.7	-46.9	7.9
SG&A expenses . . . . .	198,416	184,059	169,055	-14.8	-7.2	-8.2
Operating income or (loss)	167,915	10,581	40,977	-75.6	-93.7	287.3
Capital expenditures . . . . .	28,684	16,990	18,092	-36.9	-40.8	6.5
	----Ratio to net sales (percent)----					
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . . .	45.4	50.0	49.4	4.0	4.7	-0.7
From imports . . . . .	1.9	1.6	0.9	-0.9	-0.2	-0.7
Other raw materials . . .	6.1	6.2	4.4	-1.7	0.0	-1.7
Total raw materials . . .	53.3	57.8	54.7	1.4	4.5	-3.1
Direct labor . . . . .	9.8	11.1	11.6	1.8	1.4	0.4
Other factory costs . . . . .	11.9	14.0	13.8	1.9	2.1	-0.3
Total cost of goods sold	75.0	83.0	80.1	5.0	8.0	-2.9
Gross profit or (loss) . . . . .	25.0	17.0	19.9	-5.0	-8.0	2.9
SG&A expenses . . . . .	13.5	16.1	16.0	2.5	2.6	0.0
Operating income or (loss)	11.4	0.9	3.9	-7.6	-10.5	3.0
	----Number of firms reporting----					
Operating losses . . . . .	1	5	7			
Data for operations . . . . .	17	17	17			
Data for capital expenditures . . . . .	13	12	13			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-21**

**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. construction companies, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	-----Number of firms reporting-----				
<b>Decrease</b>					
Quantified .....	2	2	1	1	0
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	1	1	0	3	1
Did not quantify .....	1	0	0	1	0
No change .....	7	6	7	6	2
Did not know change .....	1	0	1	1	0
Other response .....	0	<sup>1</sup> 1	0	0	0
No response .....	5	7	<sup>2</sup> 8	5	<sup>3</sup> 14
<b>Total</b> .....	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>

<sup>1</sup> One respondent indicated that it would have been worse without remedy.

<sup>2</sup> Four firms had reported no capital expenditures.

<sup>3</sup> Eleven firms had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.

Table E-22

Results of operations of U.S. steel barrels and cans producers, 2000/01<sup>1</sup>, 2001/02<sup>1</sup>, 2002/03<sup>1</sup>

Item	2000/01	2001/02	2002/03	Change		
				2000/01 to 2002/03	2000/01 to 2001/02	2001/02 to 2002/03
	-----Value (\$1,000)-----			-----Percent-----		
Commercial net sales . . .	2,164,203	2,116,712	2,030,893	-6.2	-2.2	-4.1
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . .	806,535	795,835	797,129	-1.2	-1.3	0.2
From imports . . . . .	123,143	129,835	92,100	-25.2	5.4	-29.1
Other raw materials . . .	181,496	168,798	173,208	-4.6	-7.0	2.6
Total raw materials . .	1,111,174	1,094,468	1,062,437	-4.4	-1.5	-2.9
Direct labor . . . . .	178,109	164,829	161,452	-9.4	-7.5	-2.0
Other factory costs . . . . .	672,131	667,765	590,986	-12.1	-0.7	-11.5
Total cost of goods sold	1,961,414	1,927,062	1,814,875	-7.5	-1.8	-5.8
Gross profit or (loss) . . . . .	202,789	189,650	216,018	6.5	-6.5	13.9
SG&A expenses . . . . .	67,211	63,893	83,074	23.6	-4.9	30.0
Operating income or (loss)	135,578	125,757	132,944	-1.9	-7.2	5.7
Capital expenditures . . . . .	36,818	24,581	54,751	48.7	-33.2	122.7
	----Ratio to net sales (percent)----					
<b>Cost of goods sold:</b>						
<b>Raw materials:</b>						
<b>Subject input products:</b>						
From U.S. producers . .	37.3	37.6	39.3	2.0	0.3	1.7
From imports . . . . .	5.7	6.1	4.5	-1.2	0.4	-1.6
Other raw materials . . .	8.4	8.0	8.5	0.1	-0.4	0.6
Total raw materials . .	51.3	51.7	52.3	1.0	0.4	0.6
Direct labor . . . . .	8.2	7.8	8.0	-0.3	-0.4	0.2
Other factory costs . . . . .	31.1	31.5	29.1	-2.0	0.5	-2.4
Total cost of goods sold	90.6	91.0	89.4	-1.3	0.4	-1.7
Gross profit or (loss) . . . . .	9.4	9.0	10.6	1.3	-0.4	1.7
SG&A expenses . . . . .	3.1	3.0	4.1	1.0	-0.1	1.1
Operating income or (loss)	6.3	5.9	6.5	0.3	-0.3	0.6
	----Number of firms reporting----					
Operating losses . . . . .	1	0	0			
Data for operations . . . . .	5	5	5			
Data for capital expenditures . . . . .	3	3	3			

<sup>1</sup> April 1-March 30.<sup>2</sup> These are the changes for each line item which firms reported were the result of the safeguard remedies.

Source: Compiled from data submitted in response to Commission questionnaires.

**Table E-23**  
**Number of firms responding to changes due to safeguard remedies for the selected items by U.S. steel barrels and cans producers, by type of response**

<b>Response</b>	<b>Net Sales</b>	<b>Operating Income</b>	<b>Capital Expenditures</b>	<b>Subject input products from U.S. producers</b>	<b>Subject input products from imports</b>
	-----Number of firms reporting-----				
<b>Decrease</b>					
Quantified .....	0	1	1	0	1
Did not quantify .....	0	0	0	0	0
<b>Increase</b>					
Quantified .....	1	0	0	1	0
Did not quantify .....	0	0	0	0	0
No change .....	0	0	0	0	0
Did not know change ....	0	0	0	0	0
Other response .....	<sup>1</sup> 1	<sup>2</sup> 1	<sup>3</sup> 1	<sup>4</sup> 1	<sup>5</sup> 1
No response .....	3	3	3	3	<sup>6</sup> 3
<b>Total</b> .....	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>

<sup>1</sup> One firm indicated that it can not quantify.

<sup>2</sup> One firm indicated that it can not quantify.

<sup>3</sup> One firm indicated that it can not quantify.

<sup>4</sup> One firm indicated that it can not quantify.

<sup>5</sup> One firm indicated that it can not quantify.

<sup>6</sup> Two firms had reported no imports.

Source: Compiled from data submitted in response to Commission questionnaires.



**APPENDIX F**  
**TECHNICAL APPENDIX ON**  
**EMPLOYMENT ANALYSIS**

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# APPENDIX F

## TECHNICAL APPENDIX ON EMPLOYMENT ANALYSIS

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### Employment Analysis

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Using monthly employment and producer price data between January 2000 and December 2002, Francois and Baughman (2003) estimated that a 1 percent increase in the price of steel lowers employment by about 0.04 percent for a narrow definition of SC industries and by about 0.06 percent for a broader definition of SC industries.<sup>1</sup> These results are derived from estimating how much steel prices and employment in SC sectors are correlated, controlling for changes in overall manufacturing employment (minus employment in SC sectors). Figures F-1 and F-2 show the time trends in the data used in making their estimates.

Using these estimates and the 22 percent increase in the average price of hot/cold rolled steel (as measured in the producer price index) between December 2001 and December 2002, Francois and Baughman estimate that employment decreased by about 1.0 percent or about 50,000 workers for their narrow definition of SC sectors and by about 1.4 percent or 197,000 workers for their broader definition of SC sectors.<sup>2</sup> The authors also estimate that the decrease in employment represents almost \$4 billion in lost wages from February to November 2002.<sup>3</sup>

Although Francois and Baughman estimate the impact of the change in the price of steel, they do not specify what part of this total impact was due specifically to the steel safeguard measures. Also, their estimates rely on the assumption that changes in steel prices affect employment in SC manufacturing sectors, but *not* vice versa.

In addition, although Francois and Baughman control for changes in overall manufacturing employment, they assume that all other factors that may affect employment in SC sectors (such as changes in steel prices in foreign markets and wages for workers in SC sectors) are not correlated with the price of steel in the U.S. market and that lagged values of these other factors do not impact current

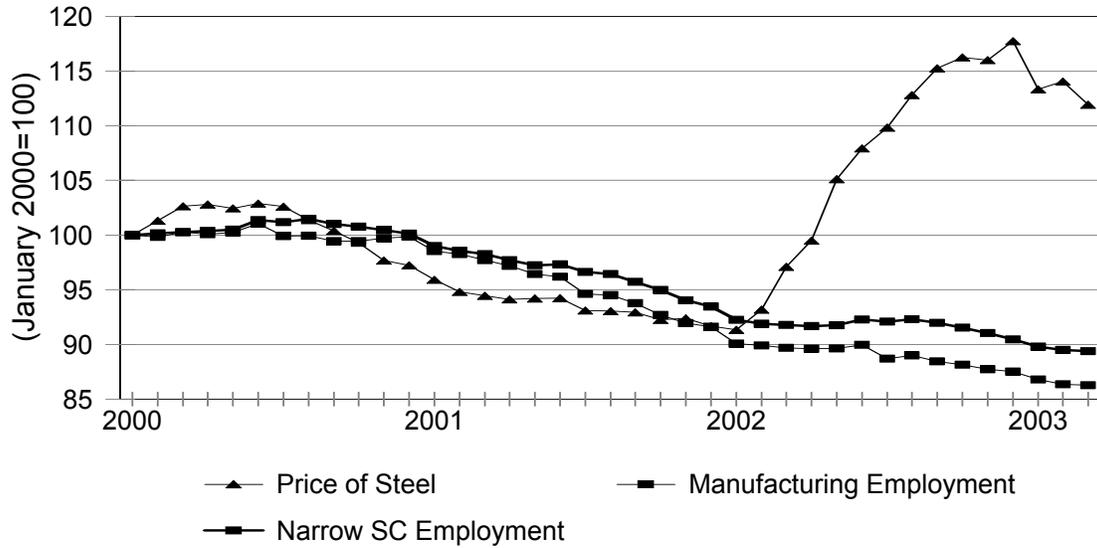
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<sup>1</sup>The authors use a *simple* average of the price of cold-rolled and hot-rolled steel from producer price indices. Their narrow definition of the SC industries includes the following Standard Industrial Classification (SIC) categories: metal fabrication (SIC 34), industrial machinery and equipment (SIC 35), and transportation equipment (SIC 37). In addition to the industries in their narrow definition, their broad definition includes electric distribution equipment (SIC 361), electrical industrial apparatus (SIC 362), household appliances (SIC 363), electric lighting and wiring equipment (SIC 364), chemical and related products (SIC 28), tires (SIC 301), petroleum refining (SIC 291), and nonresidential construction (SIC 15-17 minus SIC 152). Joseph Francois and Laura M. Baughman, "The Unintended Consequences of U.S. Steel Import Tariffs: A Quantification of the Impact During 2002." Paper prepared for the CITAC Foundation, Feb. 4, 2003, found at internet address <http://www.tradepartnership.com/pdf/jobstudy2002.pdf>, retrieved Apr. 24, 2003.

<sup>2</sup>Differences due to using logarithms.

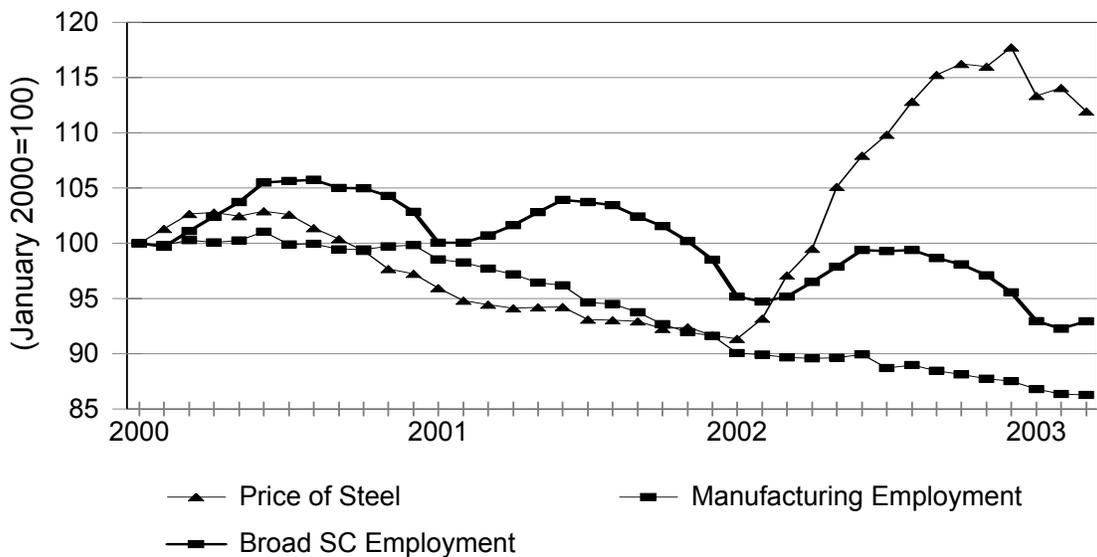
<sup>3</sup>This estimate assumes that the unemployed workers located similarly-paid employment within 4 weeks.

**Figure F-1**  
**Indices of the price of steel, manufacturing and employment for the narrow definition of SC industries, by month, January 2000-March 2003**



Source: Bureau of Labor Statistics, June 2003.

**Figure F-2**  
**Indices of the price of steel, manufacturing and employment for the broad definition of SC industries, by month, January 2000-March 2003**



Source: Bureau of Labor Statistics, June 2003.

employment in SC sectors. If steel prices and employment in SC sectors have common trends that are caused by other factors, Francois and Baughman's results could be biased.

Francois and Baughman indicate that their estimates are statistically significant, which given their assumptions means there is 95 percent confidence that increases in steel prices lowered employment in SC sectors to some extent. Interval estimates using their estimated standard error of the effect of steel prices indicate that this impact may vary in magnitude from their reported point estimates. For example, a confidence interval constructed by the USITC using their estimates indicates that there is a 95 percent chance that the change in employment in the broad definition of the SC sector resulting from the increase in the price of steel ranges anywhere from an increase of about 20,000 workers to a decrease of about 420,000 workers.

In an earlier paper using a CGE model, Francois and Baughman estimated that the increased input cost resulting from the safeguard measures recommended by the Commission would lead to a loss of between 36,200 to 74,500 jobs economy wide, and 15,300 to 30,600 jobs in SC industries.<sup>4</sup> Even the upper bound of these estimates, which were based on a higher safeguard tariff than those implemented by the President, are much smaller than the estimated employment decline in SC industries in their econometric model.<sup>5</sup>

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<sup>4</sup>Joseph F. Francois and Laura M. Baughman, "Estimated Economic Effects of Proposed Import Relief Remedies for Steel." Paper sponsored by the CITAC Foundation, Dec. 19, 2001, found at internet address [http://www.tradepartnership.com/pdf/Steel\\_Remeddy.pdf](http://www.tradepartnership.com/pdf/Steel_Remeddy.pdf), retrieved Mar. 7, 2003. For details of this GTAP-based model, see p. 13 and the technical appendix. The authors do not model the impact of the quotas proposed by Vice-Chairman Okun. Their employment estimates depend on their assumption that wages remain fixed.

<sup>5</sup>The CGE model used by Francois and Baughman assumes employment adjusts to the implementation of the proposed safeguard measures while wages are fixed. However, it would be expected that the safeguard measures would push the wage down, dampening the decrease in employment. Therefore, the employment effects from the CGE analysis are likely somewhat over stated.



**APPENDIX G**  
**TECHNICAL APPENDIX ON GENERAL**  
**EQUILIBRIUM SIMULATIONS OF THE**  
**SAFEGUARD MEASURES**

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# APPENDIX G

## TECHNICAL APPENDIX ON GENERAL EQUILIBRIUM SIMULATIONS OF THE SAFEGUARD MEASURES

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### Methodology

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The Commission uses a numeric general equilibrium model to analyze the impacts of the steel safeguard actions on the overall U.S. economy. The model is calibrated to the observed economy the prior to the imposition of the safeguard measures (2001/02). The model is a mathematical representation of the economy, simulating the interaction of producers and consumers, where each agent maximizes its own welfare subject to resource endowments and market prices. Resource and technological constraints interact with trade barriers to determine overall welfare. For this exercise, resource endowments and technologies are held constant across the policy simulation. Doing so allows for an experiment that controls for shocks that are contemporaneously correlated with the safeguard measures. Only those impacts that are specifically (structurally) attributed to the safeguard measures appear in the simulation. Thus, the technique employed is more akin to an ex-ante analysis, but it is employed in an ex-post analysis of the safeguard measures.

The motivation for using an ex-ante technique for assessing the safeguard actions is to isolate the impacts relative to other movements in the economy. Ex-post analysis typically explores statistical relationships between trade policy and changes and economic outcomes. Statistical relationships of this sort are critically dependent on a number of observations with different tariff levels. Given the limited number of observations (on a limited set of outcomes) beyond the date that the safeguard measures were imposed, an ex-post analysis would be very difficult and would yield questionable results. The simulations presented here rely on a particular theoretical structure of economic behavior to provide a framework for passing the effects of the steel tariffs onto the broader economy.

### Model Description

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General equilibrium models simulate interactions among producers and consumers within an economy in markets for goods, services, labor, and physical capital. The distinguishing feature of the general equilibrium approach is its economy-wide coverage and multisectoral nature. The model employed here explicitly accounts for upstream and downstream production linkages, intersectoral competition for labor, and international price changes. The model contains no intertemporal linkages, which is appropriate given the temporary nature of the safeguard actions.<sup>1</sup> The model can be divided into

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<sup>1</sup> Intertemporal decisions about how much aggregate consumption to forgo in an effort to generate future capital are not likely to be affected by the safeguard actions. Capital accumulation is contingent on the lifetime rate of return on the physical capital in question. Under normal parameterization, physical capital purchases are likely to generate revenue over many years or decades. Investors are unlikely to change their behavior significantly based on the short-run safeguard tariffs. Furthermore, the additional modeling overhead required to capture these minor effects would prevent the Commission from reporting consistent, highly disaggregated, results with respect to the steel-consuming industries.

three logical components that define the behavioral relationships: final demand behavior, production technologies, and the trade equilibrium.

### ***Final Demand Behavior***

The model considers two separate components of domestic final demand: private and public demand. Private household consumption is dictated by Cobb-Douglas utility over each product. Household consumption is limited by a budget constraint equal to the sum of factor incomes, net capital flows, and tax revenues, less government spending. Real public (government) spending is held constant in the model. Holding government spending fixed is consistent with welfare analysis under the assumption of separability of private consumption and publicly provided goods in the household utility function. The separability assumption is necessary in the absence of information about the total net benefits associated with government provision of public goods. The model assumes that changes in government revenues (due to changes in tariff policy) are lump-sum redistributed to households.<sup>2</sup>

### ***Production Technology***

Production technology is modeled using a nested constant elasticity of substitution (CES) value-added function.<sup>3</sup> Figure E-1 illustrates the production technology. At the bottom of the figure, inputs are combined to produce sectoral output  $X_j$ . In the value-added nest, capital and labor substitute for one another at a rate  $\phi_j$ . Domestic outputs of commodity  $i$  produced by sector  $j$ ,  $D_{ji}$ , are produced in fixed proportions according to the *make* coefficients in the social accounts. In general, the predominant output for a sector will be in its corresponding commodity, but some sectors will produce other commodities. The structure employed here accommodates details on both industries and commodities embedded in the *make* accounts available in the BEA input-output social accounts.

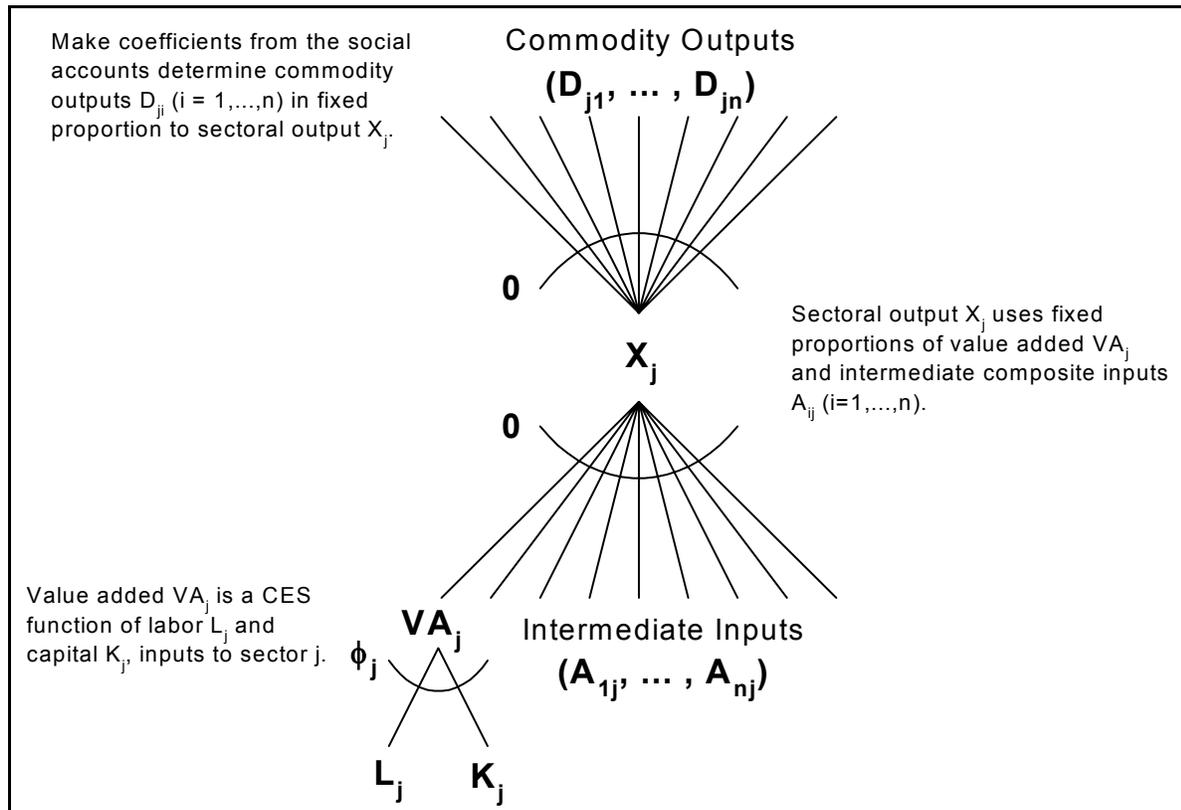
Factors of production—labor and capital—are assumed to be in fixed supply. This treatment is appropriate, because the model is not focused on aggregate employment, dynamic adjustment, or domestic tax issues. A single type of generic labor unit is assumed, and the supply of labor is fixed based on the observed value of labor payments. Capital is assumed to be sector specific and has a fixed supply. This assumption is appropriate because the temporary nature of the steel safeguard measures limit the advantages of reallocating capital across sectors. Furthermore, the safeguards will likely have a negligible impact on the aggregate capital stocks.

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<sup>2</sup> Using distortionary tax instruments (such as labor tax rates) to redistribute additional tariff revenues might decrease or increase the estimated welfare impacts of the safeguard measures. The increase or decrease in estimated welfare impacts depends on the marginal cost of public funds generated by the tax instruments, and the steel tariffs in question. See Charles L. Ballard and Don Fullerton, “Distortionary Taxes and the Provision of Public Goods,” *Journal of Economic Perspectives*, vol. 6, no. 3, pp. 117-131, 1992.

<sup>3</sup> For an introduction to CES production functions, see ch. 9 of P. R. G. Layard and A. A. Walters, *Microeconomic Theory* (New York: McGraw-Hill, 1978); ch. 9 of E. Silberberg, *The Structure of Economics* (New York: McGraw-Hill, 1990); and ch. 9 of J. W. Chung, *Utility and Production Functions: Theory and Applications* (Cambridge, MA: Blackwell Publishers, 1994).

**Figure G-1**  
**Production in the Simulation Model**



**T**

**rade Equilibrium**

Consistent with an Armington formulation of trade, imports of each commodity compete with the domestic variety.<sup>4</sup> For the analysis of the steel safeguard tariffs, however, additional varieties of steel imports were identified, and treated appropriately, in the model. These varieties included domestic steel, foreign non-covered products, foreign covered products imported from excluded countries, and foreign covered products that faced the tariffs. This formulation allows for the imposition of a tariff of the correct magnitude just on those products that covered by the duties. Models that do not treat the covered products separately are likely to generate biased welfare results, because in large-open-economy models small ad valorem tariffs on aggregate commodities generate significantly different results compared to a larger ad valorem tariff on a more disaggregate commodity. This aggregation bias is problematic even if appropriate weights are used to compute the ad valorem rate on the aggregate commodity. This aggregation bias is explored later in the analysis.

<sup>4</sup> See P. S. Armington, "A Theory of Demand for Products Distinguished by Place of Production," *IMF Staff Papers*, vol. 16, Mar. 1969, pp. 159-76.

The four varieties of steel<sup>5</sup> are combined at a constant elasticity of substitution. The resulting output is the composite steel commodity, which is available for domestic absorption.<sup>6</sup> Similarly, for the other commodities included in the model, imports and domestic varieties are combined at a constant elasticity of substitution to produce a composite commodity. The elasticity of substitution controls the economy's ability to switch between varieties of each product. For steel, sensitivity analysis is performed around the central estimate of 3.53.<sup>7</sup> For the other non-steel products the elasticity of substitution between domestic and foreign varieties is set to 4.<sup>8</sup>

To properly account for the size of the U.S. market relative to the rest of the world, the U.S. economy is modeled as a Large Open Economy (LOE). The model incorporates constant-elasticity import supply curves. Thus, the safeguard measures generate positive terms-of-trade effects for the U.S. economy. These beneficial terms-of-trade effects are an important feature of the model because the steel tariffs benefit the U.S. economy by depressing the world price of steel. Essentially, the United States is a large enough player in the world steel market that it can shift the burden of the tariffs onto foreign producers. These terms-of-trade impacts are analyzed below in the detailed results section.

The export market for U.S. products is identified by specifying the export-supply and export-demand functions. Parallel to specification of domestic and foreign import varieties, domestic output is disaggregated into commodities destined for the domestic market and those destined for foreign markets according to a constant elasticity-of-transformation (CET). This operationalizes the costly nature of switching between domestic and foreign markets. A balance-of-payments constraint closes the trade equilibrium requiring no change in capital flows due to the safeguard tariffs.

## Data, Benchmark, and Aggregations

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The simulation model represents the U.S. economy at the beginning of the safeguard action. The most recent benchmark table of the U.S. production technology (1997 BEA input-output accounts) is used as the primary data source. The benchmark accounts are adjusted to match aggregate economic conditions in March 2002, when the safeguard measures are implemented. Adjustments are made to reflect imports

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<sup>5</sup> For domestically produced steel, this composite steel commodity is broader than the actual safeguard coverage because the level of commodity aggregation in the U.S. benchmark input-output accounts dictate that the domestic steel market is very broad and includes many non-covered products (*see* table D-5 for the classification of Iron and Steel Mill Products). Domestic iron and steel is an aggregation of those industry categories of the input-output tables that would include the steel products covered by the safeguard measures: 331111 (iron and steel mills), 331210 (iron, steel pipe and tube from purchased steel), 331221 (rolled steel shape manufacturing), and 331222 (steel wire drawing).

<sup>6</sup> Domestic absorption is the measure of both intermediate and final demand for a product.

<sup>7</sup> The elasticity of substitution between varieties of steel is estimated to be 3.53 by David Hummels, "Toward a Geography of Trade Costs," (mimeo, Purdue University, 2000).

<sup>8</sup> This  $\sigma$  is often referred to as the "Armington" elasticity, *see* P. S. Armington, *op sit*. An Armington elasticity of 4 is adopted by Seth T. Kaplan and David A. Riker "The Net Welfare Effects of the 201 Steel Remedy," written submission to the Commission, June 20, 2003. An elasticity of 4 is also roughly consistent with the average of 1-digit estimates made by David Hummels, "Toward a Geography of Trade Costs," (mimeo, Purdue University, 2000). Assuming a common value across products, which are not directly related to the safeguard measures, is preferable in this context because the model will be driven by the input-output structure and not by anomalous trade elasticities on specific products. The relative confidence placed on the input-output data is higher than the confidence placed on the estimated trade elasticities for products that are not directly related to the safeguard measures. *See* Christine A. McDaniel and Edward J. Balistreri, "A Review of Armington Trade Substitution Elasticities," (2002, <http://www.georgetown.edu/faculty/ejb37/Papers/IDB.PDF>) for a discussion of the controversies surrounding trade elasticities in CGE analyses.

of steel products as they existed just prior to implementation of the safeguards. Although not as detailed as the specific tariff lines, the disaggregate BEA accounts provide significant detail on many primary and secondary industries related to the safeguard remedies. Specific industries modeled are presented in Table G-1. This table covers upstream industries that supply inputs to the steel industry and downstream industries that use steel inputs directly or indirectly. The modeled iron and steel industry includes establishments that are primarily engaged in the production of products covered by the safeguards: iron and steel mills; iron, steel pipe and tube from purchased steel; rolled steel shape manufacturing; steel wire drawing; and fabricated pipe and pipe fitting manufacturing.

**Table G-1**  
**Scope of industry coverage**

<b>Industry Containing Products Covered by Safeguard Measures</b>	
Iron and steel	
	<b>Other Primary Ferrous Metal Industries</b>
Custom roll forming	Ferrous metal foundries
Ferroalloy and related product manufacturing	Iron and steel forging and stamping
	<b>Other Upstream Sectors</b>
Coal mining	Energy
Iron ore mining	
	<b>Downstream Fabricated Metal Products</b>
Ball and roller bearing manufacturing	Metal valve manufacturing
Cutlery and flatware except precious manufacturing	Metal window and door manufacturing
Electroplating anodizing and coloring metal	Miscellaneous fabricated metal product manufacturing
Enameled iron and metal sanitary ware manufacturing	Ornamental and architectural metal work manufacturing
Fabricated structural metal manufacturing	Other ordnance and accessories manufacturing
Hand and edge tool manufacturing	Plate work manufacturing
Hardware manufacturing	Power boiler and heat exchanger manufacturing
Industrial pattern manufacturing	Prefabricated metal buildings and components
Kitchen utensil pot and pan manufacturing	Saw blade and handsaw manufacturing
Machine shops	Sheet metal work manufacturing
Metal can box and other container manufacturing	Small arms manufacturing
Metal coating and nonprecious engraving	Spring and wire product manufacturing
Metal heat treating	Turned product and screw nut and bolt manufacturing
Metal tank heavy gauge manufacturing	
	<b>Downstream Durable Manufactured Products</b>
Construction and mining machinery and equipment	Metal furniture
Durable manufacturing, not elsewhere classified (nec)	Motor vehicle parts
Electric power transformers and motors	Motor vehicles and equipment
Electronic and electrical equipment	Other transport equipment
Farm and garden machinery and equipment	Railroad rolling stock manufacturing
Industrial machinery and equipment	Ship building and repairing
Major household appliances	
	<b>Other Sectors</b>
Agriculture and forest products	Other new construction
Commercial and institutional buildings	Residential construction
Construction maintenance and repair	Resource extraction, nec
Highway street bridge and tunnel construction	Services, nec
Manufacturing and industrial buildings	Water sewer and pipeline construction
Nondurable manufacturing	

Source: USITC concordance.

## Safeguard Policy Experiment

Trade data in the year prior to the safeguard measures are used to compute a general measure of the safeguard tariffs. Hence, the computed rate does not reflect the change in trade because of the safeguards. As a benchmark, in the year leading up to the imposition of the safeguard measures the United States imported \$14.1 billion of iron and steel products. Narrowing the scope to only those

products covered by the safeguards, imports were \$8.7 billion. Accounting for countries not covered by the safeguard measures, benchmark imports covered by the safeguard were \$5.6 billion. Applying the safeguard rates to the customs value of covered imports (using the tariff-line level of aggregation) would have produced \$1.0 billion in tariff revenues (assuming no change in imports).<sup>9</sup> The implied *ad valorem* tariff rate on imports of covered products from covered countries is 18.34 percent. The specific experiment analyzed by the Commission is the imposition of a 18.34 percent tariff on steel imports of those products that are covered by the safeguards and that are imported from covered countries.<sup>10</sup>

## **Result Sensitivity and Other Modeling Issues**

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### ***Terms-of-trade Effects***

One important aspect of the steel safeguard measures is their effect on the U.S. economy's terms of trade.<sup>11</sup> The size of the U.S. steel market relative to the world steel market indicates that the steel safeguard measures are likely to have an important impact on the world price of steel. So, although the tariffs increase prices for steel consumers, the burden of the tariffs is partially born by foreign producers. For small tariffs, the benefits of shifting the tax burden onto foreigners outweighs the costs to domestic consumers.<sup>12</sup> For large tariffs, the terms-of-trade benefits are outweighed by the costs to domestic consumers. To analyze the economy-wide effects of the steel safeguard measures it is important to establish what is a *large*, and what is a *small*, tariff for the covered products, in the context of the particular simulation model employed. Determining what is a large, as opposed to a small tariff, is best accomplished by plotting the relationship between welfare changes and the rate of protection, and is reported in Figure G-2.

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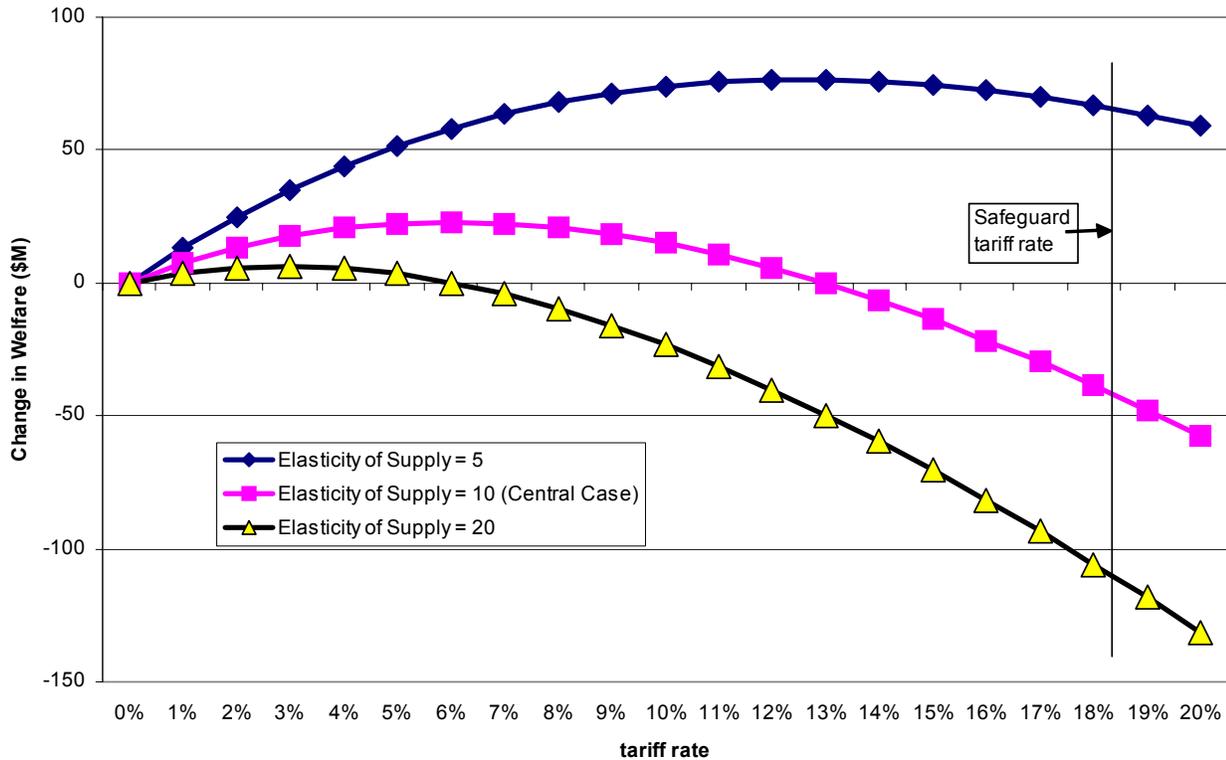
<sup>9</sup> The *ad valorem* safeguard rate applied to slab was zero because the quotas were not filled over the relevant period. If the slab tariff rate quota were filled, the implied *ad valorem* tariff rate on imports of covered products from covered countries would be larger.

<sup>10</sup> This experiment is based on the first year of the safeguard measures. Also, the experiment does not take into account product exclusions (other than the slab tariff rate quota) due to a lack of publicly available data on the extent to which imports were excluded from relief. If the experiment were based on the second or third years of the safeguard measures or accounted for product exclusions, the implied *ad valorem* tariff rate on imports of covered products from covered countries would be smaller.

<sup>11</sup> Seth T. Kaplan and David A. Riker argue, in their hearing submission, that terms-of-trade effects should be considered in the Commission's advice (Kaplan and Riker "The Net Welfare Effects of the 201 Steel Remedy," written submission to the Commission, June 20, 2003).

<sup>12</sup> See Paul R. Krugman and Maurice Obstfeld, *International Economics: Theory and Policy*, (Fourth Edition, MA: Addison-Wesley, 1997) for a proof that the optimal tariff is positive.

**Figure G-2**  
**Welfare impacts under alternative assumptions about the rate of trade protection and terms-of-trade effects**



Source: USITC calculations.

Figure G-2 illustrates how the net welfare impacts change as the tariff rate increases on the covered steel products. In the central case, an import supply elasticity of 10 is assumed. This elasticity is assumed based on the import demand elasticity of 3.53 and an observed reduction of 38 percent in the quantity (in tons) of covered steel imports in the year following the safeguard action. With an import supply elasticity of 10, the model predicts a 33 percent reduction in imports of the covered products, which indicates that the supply elasticity is likely to be close to 10. Assuming lower import supply elasticities (in this case, 5) generates significantly larger terms-of-trade effects, but significantly understates the change in import quantities. At a higher elasticity of 20, the terms-of-trade benefits are minimal.

### ***Model Sensitivity to Import-supply and Import-demand Elasticities***

There are two assumptions made in the simulation model that are critical to quantifying the economy-wide impacts of the safeguard measures on steel. These are the import-demand and the import-supply elasticities for the covered products that are from covered countries. The import demand elasticity is controlled by the elasticity of substitution between varieties of steel. As indicated in the earlier model description, the Commission relies on econometric evidence to identify this parameter. The econometric

evidence also estimated the standard deviation (around the central estimate of 3.53) for the substitution elasticity to be around 0.34. The sensitivity analysis conducted in this section is bound by two standard deviations above and below the central estimate.

As mentioned above, the Commission opted for a central import supply elasticity of 10. Import-supply elasticities above 10 will likely overstate the trade response, and import-supply elasticities below 10 will likely understate the trade response. The USITC acknowledges a great deal of uncertainty regarding this parameter, however, and therefore the sensitivity analysis is bound by 20 and 5. Table G-2 reports the welfare impacts associated with each sensitivity simulation. The USITC has the most confidence in the estimate given in the center cell (41.6).

**Table G-2**  
**Welfare sensitivity**

	Welfare Sensitivity (Million dollars)		
	Substitution Elasticity		
	2.85	3.53	4.21
<b>Import-Supply Elasticity:</b>			
5	58.7	65.6	71.6
10	-37.1	-41.6	-45.1
20	-96.4	-110.0	-121.2

Source: USITC calculations.

### *Aggregation Bias*

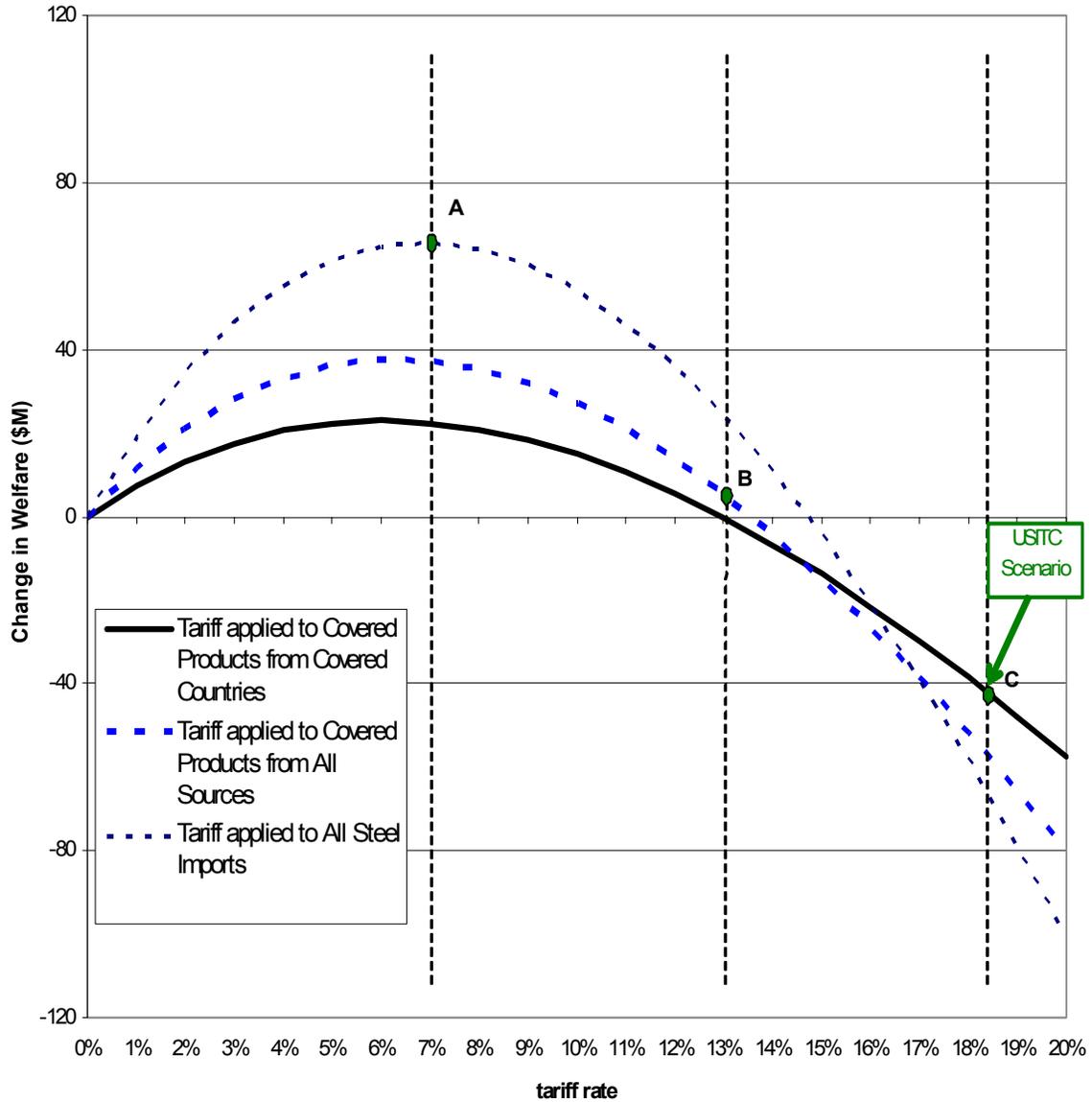
Different levels of aggregation can produce very different summary measures of the safeguard actions. Figure G-3 compares the relationship between welfare changes and the rate of protection over the modeled varieties of steel. Using the duty data to calculate the *ad valorem* rate of safeguard protection on aggregate iron and steel imports indicates a tariff of about 7 percent. Applying this rate to iron and steel imports in the simulation model indicates relatively large welfare gains from the tariffs (indicated in the figure with the point labeled A). In contrast, in the simulation examined by the Commission, an 18.34 percent tariff on only those imports that faced the duties, indicates a welfare loss of \$41.6 million (indicated in the figure with the point labeled C). As an intermediate case, Figure G-3 indicates a tariff of 13 percent on covered products from all countries at the point labeled B.

There are two key differences between the assumptions the Commission uses to quantify the impacts of the safeguard actions and the assumptions others have made using more aggregate model.<sup>13</sup> First, applying a given tariff to different product coverages produces different terms-of-trade effects. The different terms-of-trade effects are illustrated in Figure G-3 by the different lines. For example, applying a 7 percent tariff on all steel imports generates a \$66 million welfare gain, but applying a 7 percent tariff on covered products from covered countries (similar to the approach taken by the USITC) only produces a \$22 million welfare gain. This generates results consistent with economic theory, which suggest that the broader the coverage of a tariff the larger the terms-of-trade effect.

The second key difference between the model utilized by the Commission and more aggregate models concerns the actual calculation of the tariff rate. Accounting for countries not covered by the safeguards, benchmark imports covered by the safeguard were \$5.6 billion. Applying the safeguard rates to the customs value of covered imports (using the tariff-line level of aggregation) would have produced

<sup>13</sup> For example, the more aggregate model used by Seth T. Kaplan and David A. Riker “The Net Welfare Effects of the 201 Steel Remedy,”(written submission to the Commission, June 20, 2003).

**Figure G-3**  
**Welfare impacts under alternative assumptions about the rate of protection and terms-of-trade effects**



Source: USITC calculations.

\$1.0 billion in tariff revenues (assuming no change in imports).<sup>14</sup> The implied *ad valorem* tariff rate on imports of covered products from covered countries is about 18 percent. Applying the same computed duties to the aggregate covered product imports implies an *ad valorem* rate of about 13 percent, and

<sup>14</sup> The *ad valorem* safeguard rate applied to slab was zero because the quotas were not filled over the relevant period.

applying the same computed duties to aggregate iron and steel imports implies an *ad valorem* rate of only about 7 percent. Figure G-3 shows that these different methods produce different quantitative and qualitative impacts on welfare. It is important to consider these known aggregation biases when evaluating models of the steel safeguard measures.

### ***Productivity Changes and Long-run Impacts***

It has been suggested by Seth T. Kaplan and David A. Riker of Charles River Associates Incorporated that the Commission should consider the productivity increases brought about by the safeguard actions.<sup>15</sup> The simulation results reported in table 4-3, however, suggests the opposite reaction – productivity falls in the steel industry as labor inputs increase relative to the output increase. The productivity decrease is an endogenous reaction to the increase in steel prices and the drop in wages that result from the safeguard tariffs.

Evidence might be presented that productivity has increased via consolidation, but that increase does not directly indicate that the safeguard actions were instrumental in bringing about the changes or that larger increases might have occurred in the absence of the tariffs. In fact, the economic model suggest that, holding other factors constant, the tariffs allowed the steel industry to be less productive.

The productivity changes suggested by Kaplan and Riker are *assumed* and not generated by any economic model of the safeguard tariffs.<sup>16</sup> When one assumes that labor becomes more productive, there are substantial gains to economic welfare. The assumption of increased productivity relaxes overall scarcity of labor and expands the economy's production possibility frontier.<sup>17</sup> Kaplan and Riker argue that the steel industry could not reorganize in the absence of the safeguard measures, indicating a very different analysis from the exogenous productivity increases that they suggest.<sup>18</sup> Their submission indicates that prior to the safeguard action some distortion was preventing the economy from reaching the production frontier and that the safeguards offset that distortion in a way that moved the economy to a more efficient position. An analysis that shifts the production frontier is not consistent with the motivating suggestion that the safeguard measures move the economy toward the frontier, by offsetting a benchmark distortion.

In this report, the Commission does not model the suggestion made by Kaplan and Riker that the safeguard action enabled the domestic steel industry to secure financing for profitable investments. Proper analysis of such a scenario would require a structural model that includes the benchmark distortion in the capital market. Furthermore, the analysis would need a structural link that indicates how the safeguards interact with the capital market distortions. Kaplan and Riker provide no modeling of the proposed benchmark distortions, nor do they offer any guidance on the link between the safeguards and the benchmark distortions.

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<sup>15</sup> Seth T. Kaplan and David A. Riker "The Net Welfare Effects of the 201 Steel Remedy," submitted to the Commission June 20, 2003.

<sup>16</sup> In their post-hearing brief CITAC explains that Kaplan and Riker:  
...manipulates its [Computable General Equilibrium] CGE analysis in an effort to demonstrate that there is a "free lunch" whereby, all parties, including steel consumers, actually benefit from higher prices and reduced availability of steel...(p. 3, appendix).

The issue of productivity in the steel industry is explored in more detail below.

<sup>17</sup> A *production possibility frontier* is a diagram showing the maximum output possible for one good for various outputs of another (or several others), given a certain level of technology and factor endowments (land, labor and capital) of an economy. Also called the *transformation curve*. Alan Deardorff, *Glossary of International Economics*, <http://www.econ.lsa.umich.edu/>, downloaded August 7, 2003.

<sup>18</sup> Kaplan and Riker (2003).

If suggestions made by Kaplan and Riker were incorporated into the analysis, the welfare implications of exogenously increasing productivity in the short or long run are easily computed without a complex numeric model, because small relaxations of overall labor scarcity have only minor impacts on relative prices (the shift in the production frontier is roughly parallel). Using the BEA benchmark data, employee compensation in the iron and steel industry in 1997 was \$14.8 billion. If the scarcity of this input is relaxed by 2 percent (as Kaplan and Riker suggest) the economy gains \$296 million annually. Accounting for a 10 year stream of these gains discounted at 5 percent the Commission estimates an aggregate gain of \$2.6 billion which is comparable to the aggregate gain assumed by Kaplan and Riker (of \$2.75 billion). Adopting Kaplan and Riker's suggestion, to include exogenous productivity increases, would simply increase the welfare impacts reported above by about \$2.6 billion. As Kaplan and Riker point out in their analysis, assumed productivity gains of this magnitude, swamp the relatively small simulated effects of the tariffs. However, as explained above the productivity changes suggested by Kaplan and Riker are *assumed* and not generated by any economic model.



**APPENDIX H**  
**INVESTIGATION OF THE “ITC**  
**QUESTIONNAIRE TIP SHEET”**

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# APPENDIX H

## INVESTIGATION OF THE “ITC QUESTIONNAIRE TIP SHEET”

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### Introduction

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During the course of Investigation No. 332-452, *Steel-Consuming Industries: Competitive Conditions with Respect to Steel Safeguard Measures*, the Commission received information that a group had disseminated a document entitled “ITC Questionnaire Tip Sheet” (Tip Sheet) to some of the companies that may have received the questionnaire or had been in a position to complete the questionnaire in this investigation. Certain advice contained in the Tip Sheet urged recipients to reply to the questionnaire in a misleading way or to exaggerate estimates in their responses. As a very significant portion of the data presented in the report is based on questionnaire data, the Commission needed to analyze whether this guidance materially affected its fact-finding.

The Commission’s role in general fact-finding investigations under Section 332(g) of the Tariff Act of 1930 is to gather information and to present its factual findings in a report. A USITC study has value because the Commission, as an independent, non-partisan, fact-finding institution, has the resources necessary to collect and analyze data and information, and to present that information in an impartial manner. Actions that call into question the integrity of a Commission report must be addressed. Therefore, the Commission decided it to be necessary and appropriate to expend considerable time and valuable resources to understand how this incident affected the Commission’s fact-finding.<sup>1</sup>

The following is a description of the investigation conducted by the Commission, the results of that investigation, and the Commission’s evaluation of the data from responding firms including those who received the Tip Sheet as well as the data excluding responses from those who received the Tip Sheet.

### Investigation

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At the hearing on June 19, 2003, the Commission announced that it was aware that a group had disseminated a document entitled “ITC Questionnaire Tip Sheet.”<sup>2</sup> The Commission announced that it

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<sup>1</sup> The Commission considers the question of whether the conduct by those participating in an investigation could compromise the objectivity of the information received in response to questionnaires to be a serious matter. Accordingly, the Commission will address separately the conduct during the Commission’s investigation of those responsible for the creation and distribution of the Tip Sheet.

<sup>2</sup> Opening Statement of Chairman Deanna Tanner Okun, Investigation No. 332-452, *Steel-Consuming Industries: Competitive Conditions with Respect to Steel Safeguard Measures*. An attorney representing a company interested in this proceeding submitted in confidence the Tip Sheet to the Commission on June 4, 2003, as part of his client’s pre-hearing brief. CPTI 201 Coalition, pre-hearing brief to the USITC for Investigation No. 332-452, June

was investigating the matter and during the course of the two days of hearings, the witnesses and counsel were asked whether they or their organizations had received, otherwise seen, participated in the preparation of, or were otherwise aware of an “ITC Questionnaire Tip Sheet.”<sup>3</sup>

The Tip Sheet is a two-page document that advised potential questionnaire respondents about how to complete the Commission’s questionnaire.<sup>4</sup> This advice ranged from “answer all questions” and “estimates are allowed if exact data is {sic} not available” to certain advice that recommended that questionnaire respondents should exaggerate the impact of the safeguard measures on their firms. For example, the document encouraged respondents to use estimates that favor “a more compelling story.” It also urged respondents to answer the questionnaire in a particular way by stating that it is “important” that respondents’ “projections for the future should be even more bleak than what has happened to date.” In addition, the Tip Sheet encouraged respondents to “{b}e creative and ‘extrapolative’,” and to “multiply the impact of a particular adverse development.” It suggested that estimates were the best means to accomplish this end.

The Commission began to define the universe of those who may have received the document by asking witnesses during the course of the two days of hearings whether they had prepared, received, or otherwise were aware of the Tip Sheet. Three attorneys either answered in the affirmative (Sanford B. Ring and Roger Schagrin) or indicated that they would respond in the post-hearing submission (Tamara Jack).<sup>5</sup> Based on the e-mail that transmitted the Tip Sheet to a number of recipients, the Commission knew that the document had been disseminated by an association.<sup>6</sup> Following the hearings, Chairman Okun sent post-hearing questions to the two individuals known to have seen the Tip Sheet and to 26 firms or associations. The Commission compiled the list of associations from those associations that had entered an appearance before the Commission or those associations with whom the Commission consulted at the beginning of the investigation to develop its questionnaire mailing list. Through this investigation, the Commission was able to clarify who created the Tip Sheet, who disseminated it and who received the document.

Attorney Sanford B. Ring, counsel to the Motor and Equipment Manufacturers Association (MEMA), acknowledged drafting the Tip Sheet and a transmittal memorandum to assist the motor vehicle parts producers that are members of MEMA in completing the investigation’s questionnaires.<sup>7</sup> At the direction of \* \* \*, Mr. Ring also provided the document to another association, the National Electrical

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4, 2003, pp. 13-14, Exh. 4.

<sup>3</sup> See Transcript of Commission Hearing, June 19, 2003, p. 146 (Commissioner Stephen Koplan). See also Transcript of Commission Hearing, June 19, 2003, pp. 254-55, 457-58 (Commissioner Stephen Koplan); Transcript of Commission Hearing, June 20, 2003, pp. 597-98, 694, 766, 820 (Commissioner Stephen Koplan).

<sup>4</sup> A copy of the Tip Sheet can be found at the end of this appendix.

<sup>5</sup> See Transcript of Commission Hearing, June 19, 2003, pp. 160-61, 484; Transcript of Commission Hearing, June 20, 2003, pp. 604-05.

<sup>6</sup> See CPTI 201 Coalition, pre-hearing brief to the USITC for Investigation No. 332-452, June 4, 2003, pp. 13-14; Roger B. Schagrin, Fax to the USITC for Investigation No. 332-452, June 19, 2003; Roger B. Schagrin, Response to Chairman Okun for Investigation No. 332-452, June 30, 2003, Attachment 2.

<sup>7</sup> Sanford B. Ring, Response to the USITC for Investigation No. 332-452, June 25, 2003, p. 1; Sanford B. Ring, Response to Chairman Okun for Investigation No. 332-452, June 30, 2003, p. 1. See also MEMA, Response to Chairman Okun for Investigation No. 332-452, July 2, 2003, p. 2 (“MEMA received the Document from its ITC counsel, Dykema Gossett”).

Manufacturers Association (NEMA), which was not his client.<sup>8</sup> Representatives for both MEMA and NEMA acknowledged that they electronically transmitted the Tip Sheet to a group of firms and associations.<sup>9</sup> <sup>10</sup> MEMA transmitted the documents on April 28, 2003, to 69 individuals at 38 firms and 2 associations.<sup>11</sup> MEMA retransmitted the documents on May 1 and 2, 2003.<sup>12</sup> NEMA transmitted the Tip Sheet on May 1, 2003, to 401 individuals at 347 firms.<sup>13</sup> The Specialty Equipment Market Association (SEMA) transmitted the Tip Sheet to one of its members that later chose not to submit a questionnaire.<sup>14</sup> As a result of the investigation, the Commission determined that the Tip Sheet was distributed to a minimum of 386 firms.<sup>15</sup>

## **Tip Sheet Recipients Submitting Questionnaire Responses**

After defining the universe of likely recipients, the Commission examined whether any of the firms that received the Tip Sheet had submitted questionnaire responses in this investigation. Of the 386 firms that are known to have received the Tip Sheet, the Commission received 34 purchaser questionnaire responses. These companies range in size from small to large purchasers of subject steel products and represent several industry sectors.

In this investigation, the Commission received 485 questionnaires from firms that indicated that they had purchased subject steel products. Thus, those firms that both received the Tip Sheet and submitted questionnaires represent approximately 7.0 percent of the responses in the Commission's database. A similar ratio, however, is higher in particular industry sectors as the Tip Sheet was disseminated to MEMA and NEMA members, who are comprised primarily of firms in the automotive parts, industrial fastener and energy sectors. The industry sectors most affected were industrial fasteners and automotive parts, where 28.6 percent and 22.1 percent of the Commission questionnaire responses for each of those industry sectors, respectively, had received the Tip Sheet.

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<sup>8</sup> Sanford B. Ring, Response to the USITC for Investigation No. 332-452, June 25, 2003, p. 3; NEMA, Response to Chairman Okun for Investigation No. 332-452, June 27, 2003, p. 9.

<sup>9</sup> MEMA, Response to Chairman Okun for Investigation No. 332-452, July 2, 2003, p. 2; NEMA, Response to Chairman Okun for Investigation No. 332-452, June 27, 2003, pp. 1-8.

<sup>10</sup> The Commission notes that at the hearing, the witness for NEMA denied any knowledge of the Tip Sheet after being asked twice about it. Transcript of Commission Hearing, June 19, 2003, pp. 254-58. A day later, by letter, the witness changed his response to "yes." John Meakem, Manager, International Trade, NEMA, Letter to Chairman Okun for Investigation No. 332-452, June 20, 2003.

<sup>11</sup> Arent Fox, General Counsel to MEMA, Response to Chairman Okun for Investigation No. 332-452, August 25, 2003, p. 2.; MEMA, Response to Chairman Okun for Investigation No. 332-452, July 2, 2003, p. 2 and Attachment 1.

<sup>12</sup> \* \* \*

<sup>13</sup> NEMA, Response to Chairman Okun for Investigation No. 332-452, June 27, 2003, pp. 1-8.

<sup>14</sup> SEMA, Response to Chairman Okun for Investigation No. 332-452, July 15, 2003, p. 1.

<sup>15</sup> There is no evidence that any respondents (or potential respondents) to the Ports' and Related Services' Questionnaire received the tip sheet.

## Results of Investigation

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In order to assess the extent to which the questionnaire data may have been affected by the distribution of the Tip Sheet, the Commission closely examined the 34 responses of the firms that received the document. First, the Commission examined the 34 questionnaire responses of these firms to determine if their responses to questions exhibited any significant differences from the responses from other responding steel consuming firms. This comparison was done both relative to all responding firms and, in particular, relative to firms in the same industry sectors that may have had similar experiences. This analysis indicated that the responses of the firms that received the Tip Sheet differed to varying degrees from responses from all other responding steel consuming firms; however, responses from those firms that received the Tip Sheet generally were similar to those of other steel consuming firms in the same industry sectors (e.g., fabricators and motor vehicle parts producers).

The Commission also examined responses to all of the questions using two databases, one which included the 34 questionnaire responses and one without these 34 responses. Comparing the total responses to each question using both of these databases indicates that overall responses generally varied only slightly, with greater variances for some questions than others. In all cases where the Commission report discusses the percentage of steel consuming firms that responded to a certain question, the overall percentage changes only slightly based on the inclusion or exclusion of these 34 responses. For example, with regard to questions on contract price changes since the imposition of the safeguard measures, slightly less than one half (i.e., about 48 percent) of all steel consuming firms reported that contract prices had changed. If the 34 responses from the firms that received the Tip Sheet were excluded from the data, the percentage of firms reporting that changes in contract prices occurred was similar (44 percent). A comparison of the responses of firms in the motor vehicle parts industry (an industry which had a large number of tip sheet recipients) indicates that 74 percent of all motor vehicle parts firms reported experiencing changes in contract prices, compared to the 87 percent for the Tip Sheet recipients alone.

With respect to spot prices, approximately 51 percent of all responding firms reported that spot prices had changed since the imposition of the safeguards measures. When the 34 responses are excluded, the result is 52 percent. In the motor vehicle parts sector, 42 percent of all recipients reported changes in spot prices, while 44 percent of Tip Sheet recipients stated that spot prices had changed. With regard to questions on contract modification or abrogation, 29 percent of all responding firms reported that their contracts with steel suppliers were modified or abrogated. If Tip Sheet recipients are excluded, 26 percent of all responding firms indicated contract modifications or abrogation.

In examining whether steel consuming firms were able to pass on their increased costs of steel to customers, 19 percent of firms reported they were successful in passing on the increased costs of steel, while 43 percent were not. When excluding those firms which received the Tip Sheet, the data show that 20 percent of firms were successful in passing on increased steel costs to consumers, while 40 percent were not. On the question of whether firms had difficulties obtaining steel, the data are exactly the same (49 percent reporting no change in their ability to obtain steel) whether the 34 responses are included or not and the Tip Sheet recipients responses are the same (32 percent reporting no change in the ability to obtain steel) as compared to all other motor vehicle parts producers.

In some cases, information is presented on the basis of the number of firms reporting and not a percentage basis. In these cases, exclusion of the 34 responses of firms that received the Tip Sheet lowers the absolute number of responses; however, the general story remains the same. For example, questionnaire responses from all steel consuming firms indicate that many had difficulties obtaining steel

and this led to problems such as allocations (120 firms) and delayed deliveries (169 firms), or longer lead times (176). Excluding the 34 responses from firms that received the Tip Sheet reduced these numbers (107 reported allocations, 146 reported delayed deliveries, and 156 reported longer lead times), but the numbers were still significant.

With regard to Tip Sheet recipients, the Commission paid particular attention to steel consuming firms' responses to the question of the likely future impact of continuation or termination of the steel safeguard measures. As the responses to these questions are predictions and are not based on hard or verifiable data, there exists a greater potential for exaggeration. Again, the Commission examined the 34 responses of the firms that received the Tip Sheet with all other steel consuming firms and compared overall results with and without these 34 responses. As can be seen in the following tables, the results are similar in both cases (i.e., where the 34 responses are included and where they are excluded).

**Table H-1**  
**Questionnaire responses from all steel-consuming firms on expected future employment, profitability, capital investment, and international competitiveness, by percent<sup>1</sup>**

	Safeguard Measures Continued			Safeguard Measures Terminated		
	No change	Increase	Decrease	No change	Increase	Decrease
Employment .....	54.7	5.9	39.4	55.1	34.1	10.8
Profitability .....	46.1	8.1	45.9	39.0	48.5	12.5
Capital Investment .....	66.0	9.0	25.1	58.5	32.5	9.0
International competitiveness .....	52.1	15.4	32.5	50.7	37.9	11.4

<sup>1</sup> These data include responses from all responding SC firms, including the 34 responses from firms that received the "ITC Questionnaire Tip Sheet".

Source: USITC calculations from questionnaire data.

**Table H-2**  
**Questionnaire responses from steel-consuming firms (excluding those steel-consuming firms that received the "ITC Questionnaire Tip Sheet") on expected future employment, profitability, capital investment, and international competitiveness, by percent<sup>1</sup>**

	Safeguard Measures Continued			Safeguard Measures Terminated		
	No change	Increase	Decrease	No change	Increase	Decrease
Employment .....	54.2	5.9	39.0	55.2	33.6	11.2
Profitability .....	46.6	8.7	46.6	38.5	48.3	13.3
Capital Investment .....	67.0	9.7	23.3	59.0	31.3	9.7
International competitiveness .....	52.6	15.3	32.1	50.5	38.0	11.5

<sup>1</sup> These data **exclude** responses from the 34 responses from steel-consuming firms that received the "ITC Questionnaire Tip Sheet".

Source: USITC calculations from questionnaire data.

## Questions Related to Verification

A number of participants inquired as to whether the Commission could conduct verifications of the questionnaires of the Tip Sheet recipients. The statute authorizes the Commission to verify information provided to it during an investigation and each firm submitting a questionnaire certified its

understanding that the information submitted is subject to audit and verification.<sup>16</sup> Typically, the Commission conducts verification either if the data of a response differs from the industry as a whole or similarly situated firms or if the respondent firm is so large that it represents a substantial percentage of the industry. Neither variable was present in this case. The Commission decided not to undertake such verifications because, first, as noted above, the 34 questionnaire responses of the firms did not appear to differ significantly from similarly situated firms. Second, while a few of the firms that received the Tip Sheet are large in size, no respondent firm was so large that it represented a substantial percentage of the industry sectors.

The Commission also considered the fact that it would be difficult, if not impossible, to verify certain portions of the questionnaires responses pertaining to the question of the likely future impact of continuation or termination of the steel safeguard measures. Again, responses to these questions are predictive and are not based on data that are verifiable. Given the impossibility of determining the degree to which any of the recipients of the Tip Sheet actually followed its advice to exaggerate estimates or make more dire predictions and the fact that an official at each firm submitting a questionnaire response was required to certify that the information in the firm's questionnaire is "complete and correct to the best of his/her knowledge and belief,"<sup>17</sup> the Commission determined that the most appropriate action for it to take was the investigation it conducted in comparing the responses of those who received the Tip Sheet with those that did not.

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<sup>16</sup> 19 U.S.C. § 1333(a).

<sup>17</sup> Purchasers' Questionnaire, *Steel-Consuming Industries: Competitive Conditions with Respect to Steel Safeguard Measures*, Investigation No. 332-452.

## ITC QUESTIONNAIRE TIP SHEET

THE OVERRIDING GOAL IS TO TELL A COMPELLING STORY. IN SOME CASES, THE QUANTITATIVE DATA MAY SPEAK FOR ITSELF. IN OTHER CASES, THE STORY HAS TO BE ELICITED QUALITATIVELY IN NARRATIVE PORTIONS OF THE QUESTIONNAIRE.

WE WANT TO DEMONSTRATE THAT THE ADVERSE IMPACT OF THE TARIFFS ON STEEL USERS HAS BEEN SIGNIFICANT, AND THAT IT WILL BE EVEN WORSE GOING FORWARD. IT IS IMPORTANT TO BEAR THIS POINT IN MIND AS YOU ANSWER THE QUESTIONS – YOUR PROJECTIONS FOR THE FUTURE SHOULD BE EVEN MORE BLEAK THAN WHAT HAS HAPPENED TO DATE.

- 1) The ITC will attach instruction booklets to the questionnaires. Please read these instructions prior to completing the questionnaires.
  - Answer all questions.
  - If the answer to any question is none, write “None.”
  - **If information is not readily available from your records in exactly the form requested, provide estimates and designate it by the letter “E”.**
- 2) To the maximum extent possible, make reasoned and rational allocations among steel products. While the goal is to convince the Administration to terminate the steel tariff program in its entirety, it is possible that the Administration could act on a product-by-product basis. Thus, accurate allocation among products is important.
- 3) As stated above, **estimates are allowed** if exact data is not available. However, estimates should be resolved in favor of a more compelling “story.”
- 4) The following points should be highlighted when discussing the changes experienced due to the Steel 201 safeguard measures:
  - Loss of U.S. jobs.
  - Facility shut-downs / slowdowns.
  - Direct importing of semi/finished parts, irrespective of whether from a related or unrelated producer.
  - Purchasing/importing from tariff excluded countries (e.g., Canada, Brazil, Turkey, Mexico).
  - Sales lost to semi/finished parts imported by other parts producers or the parts purchasers.
  - Profits lost due to inability to pass on steel costs.
  - Inability to adequately reinvest.
- 5) Be creative and “extrapolative”
  - For example, question III-2 of the 332 questionnaire asks the respondent to report employment pre- and post-safeguard tariffs, and ascribe an absolute value to the change due to the steel tariffs.

While it may be that Company A directly lost 300 jobs due to shifting parts production to an offshore affiliate, if the move also caused Company A to send 200 other non-steel jobs

to gain economies of scale, etc., then a total loss of 500 jobs may be attributed to the tariffs.

- This same type of argument could be made with regard to capital expenditures . . . That the Company was going to invest X million dollars in the U.S., but sourcing decisions related to steel will cause more than just direct steel dollars going offshore.

- Similarly, even if only anecdotal, multiply the impact of a particular adverse development.

If Company A lost sales of its widgets to Buyer B, because Buyer B purchased from offshore Exporter C, Company A could speculate that the floodgates have been opened for Exporter C with Buyer B, and Company A fears additional lost sales and revenue going forward. In addition, Company A fears that Exporter C will go after Buyers D, E, and F, too.